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FLUOR

Memorandum

M8141-SLF-04-397

To: S. J. Trent A0-21 Date: December 28, 2004

From: S. L. Fitzgerald, Manager
 WSCF Analytical Chemistry

cc:	w/Attachments	w/o Attachments
	T. F. Dale S3-28	D. J. Hart S3-30
	H. K. Meznarich S3-30	M. A. Neely S3-30
	P. D. Mix S3-30	H. S. Rich S3-28
	J. E. Trechter S3-30	L. C. Swanson E6-35
		File/LB

Subject: FINAL RESULTS FOR 200-LW-1/LW-2 CHARACTERIZATION - SOIL - SAMPLE
 DELIVERY GROUP WSCF20042240 SAF NUMBER F03-025

Reference: (1) Groundwater Protection Program-Letter of Instruction, FH-EIS-2003-MEM-001,
 October 31, 2002
 (2) HNF-SD-CD-QAPP-017, Rev. 6, Waste Sampling & Characterization Facility Quality
 Assurance Plan

This letter contains a narrative (Attachment 1) for sample delivery group WSCF20042240, the analytical results (Attachment 2), and the sample receipt information (Attachment 3).

SLF/grf

Attachments 3

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M8141-SLF-04-397

ATTACHMENT 1

NARRATIVE

Consisting of 8 pages
Including cover page

Sample Delivery Group	WSCF20042240
Sample Matrix	Soil
Sample Visual	N/A
SAF Number	F03-025
Data Deliverable	Summary Report

Introduction

One (1) 200-LW-1/LW-2 Characterization – Soil, 216 T-28, 197.5 – 200' GRP sample (B19196) was received at the WSCF Laboratory on November 24, 2004. The sample was analyzed for the analytes indicated on the three attached copy of the chains of custody (COC) form in accordance with the *Groundwater Remediation Program – Letter of Instruction*, referenced in the cover letter.

The narrative (Attachment 1) will address sample characteristics, analyses requested and general information in performance of the analytical methods. A Data Summary Report (Attachment 2) includes analytical results, a comment report detailing method abnormalities, tentatively identified peaks if applicable, method references, and Laboratory QC information. Copies of the three chains of custody and Request for Sample Analysis forms are included as Attachment 3.

Analytical Methodology for Requested Analyses

Inorganic

- Ammonia by EPA Method 300.7. Analytical work was performed with no deviations to the approved method.
- Anions by EPA Method 300. Analytical work was performed with no deviations to the approved method.
- Cyanide by EPA Method 335.2. Analytical work was performed with no deviations to the approved method.
- ICP-AES Metals by EPA Method 6010B. Analytical work was performed with no deviations to the approved method.
- ICP-MS Metals by EPA Method 200.8. Analytical work was performed with no deviations to the approved method.
- Percent Solids by EPA Method 160.3. Analytical work was performed with no deviations to the approved method.
- pH by EPA Method 150.1. Analytical work was performed with no deviations to the approved method.

Organic

- Alcohols/Glycols by EPA Method 8015. Analytical work was performed with no deviations to the approved method.
- PCBs by EPA Method 8082B. Analytical work was performed with no deviations to the approved method.
- Semi-VOA by EPA Method 8270C. Analytical work was performed with no deviations to the approved method.
- TPH Diesel Range by WDOE Method NWTPH-Dx/Gx. Analytical work was performed with no deviations to the approved method.
- TPH Gas Range by WDOE Method NWTPH-Dx/Gx. Analytical work was performed with no deviations to the approved method.
- VOA by EPA Method 8260A. Analytical work was performed with no deviations to the approved method.

Radiochemistry

- All RadChem analyses (AEA (Plutonium, Americium, Uranium and Neptunium) and GEA) were run by internal WDOE accredited WSCF procedures. Analytical work was performed with no deviations to the approved method.

Inorganic Comments

Ammonia - The hold time for this analysis was met. A Blank, Duplicate, Laboratory Control Sample, Matrix Spike and Matrix Spiked Duplicate were analyzed with each delivery group per GRP Letter of Instruction. See page 13 for QC details. Analytical Notes:

- Duplicate, Matrix Spike and Matrix Spike Duplicate QC samples were analyzed on sample# B1B576 (SDG# 20042230, SAF# F03-006).
- Sample B19196 result was B-flagged; the analyte was less than the reportable detection limit, but greater than or equal to the method detection limit.
- Duplicate Relative Percent Difference exceeded established laboratory limits. The RPD criterion is not applicable to low level samples.

All QC controls are within the established limits.

Anions - The hold times for this analysis was not met for Nitrite/Nitrate. A Blank, Duplicate, Laboratory Control Sample, Matrix Spike and Matrix Spiked Duplicate were analyzed with each delivery group per GRP Letter of Instruction. See pages 14 through 15 for QC details.
Analytical Notes:

- Preparation Date: 29-nov-2004.

- Duplicate, Matrix Spike and Matrix Spike Duplicate QC samples were analyzed on sample# B19193 (SDG# 20042123, SAF# F03-025).

All QC controls are within the established limits.

Cyanide - The hold time for this analysis was met. A Blank, Preparation Blank, Laboratory Control Sample, Matrix Spike and Matrix Spiked Duplicate were analyzed with each delivery group per GRP Letter of Instruction. See page 16 for QC details. Analytical Note:

- Matrix Spike and Matrix Spike Duplicate QC samples were analyzed on sample# B1B577 (SDG# 20042230, SAF# F03-006).

All QC controls are within the established limits.

ICP-AES Metals (Bismuth only) – The hold time for this analysis was met. A Blank, Laboratory Control Sample, Matrix Spike and Matrix Spiked Duplicate were analyzed with each delivery group per GRP Letter of Instruction. See page 17 for QC details. Analytical Notes:

- Preparation Date: 30-nov-2004.
- Matrix Spike and Matrix Spike Duplicate QC samples were analyzed on sample# B19187 (SDG# 20042022, SAF# F03-025).
- Bismuth - The analyte detected in the associated preparation Blank sample was evaluated and there was no significant affect on the sample result.

All other QC controls are within the established limits.

ICP-MS Metals – The hold time for this analysis was met. A Laboratory Control Sample, Matrix Spike and Matrix Spiked Duplicate were analyzed with each delivery group per the GRP Letter of Instruction. See pages 18 through 20 for QC details. Analytical Notes:

- Preparation Date: 10-dec-2004.
- Silver, Arsenic, Barium, Cadmium, Chromium, Copper, Mercury and Antimony - The analytes detected in the associated preparation Blank sample were evaluated and there was no significant affect on the sample result.
- Uranium – The Laboratory Control Sample recovery exceeded established laboratory limits. All other QC controls were within limits and the sample was not flagged.

All other QC controls are within the established limits.

Percent Solids – analyzed for organic moisture correction.

pH - The hold time for this analysis was met. All laboratory QC controls are within the established limits.

Organic Comments

- Sample results are moisture corrected and reported on dry weight basis.

Alcohol/Glycols - The hold time for this analysis were met. A Blank, Duplicate, Laboratory Control Sample, Matrix Spike and Matrix Spiked Duplicate were analyzed with each delivery group per GRP Letter of Instruction. See page 24 for QC details. Analytical Note:

- Preparation Date: 30-nov-2004.

All QC controls are within the established limits

PCBs – The hold time for this analysis was met. A Blank, Laboratory Control Sample, Matrix Spike and Matrix Spiked Duplicate were analyzed with each delivery group per the GRP Letter of Instruction. See pages 25 through 26 for QC details. Analytical Note:

- Preparation Date: 29-nov-2004.

All QC controls are within the established limits.

Semi-VOA – The hold time for this analysis was met. A Blank, Laboratory Control Sample, Matrix Spike and Matrix Spiked Duplicate were analyzed with each delivery group per the GRP Letter of Instruction. See pages 27 through 30 for QC details. Analytical Note:

- Preparation Date: 29-nov-2004.

All QC controls are within the established limits.

TPHD-WA - The hold time for this analysis were met. A Blank, Laboratory Control Sample, Matrix Spike and Matrix Spiked Duplicate were analyzed with each delivery group per GRP Letter of Instruction. See page 31 for QC details. Analytical Notes:

- Preparation Date: 29-nov-2004.
- Sample B19196 contained hydrocarbon like peaks that could not be identified as either kerosene, diesel or motor oil.

All QC controls are within the established limits.

TPHG-WA - The hold time for this analysis were met. A Blank, Laboratory Control Sample, Duplicate, Matrix Spike and Matrix Spiked Duplicate were analyzed with each delivery group per GRP Letter of Instruction. See page 32 for QC details. Analytical Notes:

- Preparation Date: 02-dec-2004.
- Matrix Spike and Matrix Spike Duplicate QC samples were analyzed on sample# B19195 (SDG# 20042201, SAF# F03-025).

All QC controls are within the established limits.

VOA – The hold time for this analysis was met. A Blank, Laboratory Control Sample, Matrix Spike and Matrix Spiked Duplicate were analyzed with each delivery group per the GRP Letter of Instruction. See pages 33 through 35 for QC details. Analytical Notes:

- Matrix Spike and Matrix Spike Duplicate QC samples were analyzed on sample# B19LJ7 (SDG# 20042207, SAF# F03-018).
- Toluene – sample B19196 result was J flagged; result was less than the lowest calibration standard but greater than the detection limit.
- Toluene - sample B19196 result was B-flagged; analyte found in the associated Blank QC sample.

All other QC controls are within the established limits.

Radiochemistry Comments

RadChem – There are no hold times associated with these WDOE accredited methods. A Blank, Laboratory Control Sample and Duplicate were analyzed with each delivery group per the GRP Letter of Instruction. See pages 37 through 41 for QC details. Analytical Notes:

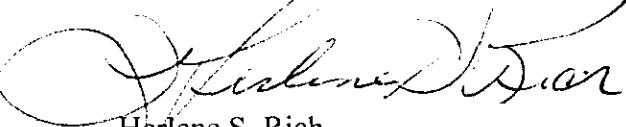
- Americium-241, Plutonium-239/240 and Uranium-238 - Duplicate QC samples were analyzed on sample# B1B576 (SDG# 20042230, SAF# F03-006).
- Neptunium-237 - Duplicate QC samples were analyzed on sample# B19195 (SDG# 20042201, SAF# F03-025).
- Cesium-137 and Europium-155 – The Duplicate Relative Percent Difference exceeded established laboratory limits. The RPD criterion does not apply to low level samples.
- Neptunium-237 – Duplicate Relative Percent Difference and the Laboratory Control Sample recovery was below established laboratory limits. Sample result was below the detection limit and not flagged, but should be considered suspect.
- Uranium-238 - The Duplicate Relative Percent Difference exceeded established laboratory limits. The sample was non-homogeneous.

All other QC controls are within the established limits.

Radiochemical Tracer Percent Recovery

Sample Number	Lab Sample ID	Isotope	Tracer Recovery (Percent)
BLANK		Pu-242	90.8
LCS		Pu-242	95.4
B1B576	W040002328	Pu-242	80.4
DUPLICATE	W040002328	Pu-242	82.3
B19196	W040002413	Pu-242	77.5
BLANK		Am-243	87.6
LCS		Am-243	97.2
B1B576	W040002328	Am-243	83.7
DUPLICATE	W040002328	Am-243	85.4
B19196	W040002413	Am-243	89.8
BLANK		U-232	88.4
LCS		U-232	77.4
B1B576	W040002328	U-232	78.2
DUPLICATE	W040002328	U-232	81.2
B19196	W040002413	U-232	84.3

This Summary Report is in compliance with the SOW, both technically and for completeness. Release of the data contained in this hard copy report has been authorized by the WSCF Laboratory Analytical Manager and Client Services, as verified by the following signature.


Herlene S. Rich
WSCF Production Control

Abbreviations

Hg – mercury
IC – ion chromatography
ICP – inductively coupled plasma
ICP/AES – ICP/atomic emission spectroscopy
ICP/MS – ICP/mass spectrometry
Total U – total uranium
AT/TB – total alpha/total beta
AEA – Alpha Energy Analysis
WTPH-G – Total Hydrocarbons-Gasoline

Am – americium
Cm - curium
Pu – plutonium
Np – neptunium
GEA – gamma energy analysis
H3 – Tritium
Sr – Strontium 89, 90
WTPH-D – Total Hydrocarbons-Diesel
TSS – Total Suspended Solids

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ATTACHMENT 2

ANALYTICAL RESULTS

Consisting of 41 pages
Including cover page

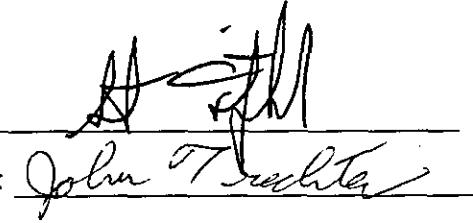
WSCF
ANALYTICAL RESULTS REPORT

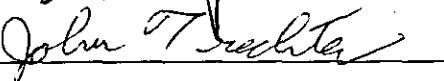
for

Groundwater Remediation Program

Richland, WA 99354

Attention: Steve Trent

Analytical: 

Client Services: 

All results are reported on an "as received" basis unless otherwise noted in the comment section.

Confidentiality Notice: The information contained in this report is privileged and confidential information intended only for the use of the addressee. If the reader of this report is not the intended recipient, or the employee or agent responsible to deliver it to the intended recipient, you are hereby notified that any dissemination, distribution or copying of this communication is strictly prohibited. If you have received this communication in error, please notify us immediately by telephone at (509) 373-7020.

Contract#: FH-EIS-2003-MEM-001

Report#: WSCF20042240

Report Date: 22-dec-2004

Report WGPP/ver. 1.1

Groundwater Remediation Program

Page 1

WSCF

ANALYTICAL RESULTS REPORT

**Attention:
Project:**

Steve Trent
F03-025: F03-025

Group #: WSCF20042240

Sample #	Client ID	CAS #	Test Performed	Matrix	WSCF		Result	Unit	DF	MDL	Analyze Sample	Receive
					Method	RQ						
Inorganic												
W040002413	B19196	TRENT	57-12-5	Cyanide	SOIL	LA-695-402	U	< 0.200	mg/kg	1.00	0.20	12/01/04 11/24/04 11/24/04
W040002413	B19196	TRENT	NH4-N	Nitrogen in ammonium	SOIL	LA-503-401	B	3.04	mg/kg	50.00	0.20	12/09/04 11/24/04 11/24/04
W040002413	B19196	TRENT	TS	Total solids	SOIL	LA-519-412		96.5	%	1.00	0.0	12/01/04 11/24/04 11/24/04
W040002413	B19196	TRENT	PH	pH Measurement	SOIL	LA-212-411		8.80	pH	1.00	0.010	12/01/04 11/24/04 11/24/04
W040002413	B19196	TRENT	16984-48-8	Fluoride	SOIL	LA-533-410	U	< 1.15	mg/kg	50.00	1.2	11/30/04 11/24/04 11/24/04
W040002413	B19196	TRENT	16887-00-6	Chloride	SOIL	LA-533-410		10.6	mg/kg	50.00	2.6	11/30/04 11/24/04 11/24/04
W040002413	B19196	TRENT	NO2-N	Nitrogen in Nitrite	SOIL	LA-533-410	U	< 0.950	mg/kg	50.00	0.95	11/30/04 11/24/04 11/24/04
W040002413	B19196	TRENT	NO3-N	Nitrogen in Nitrate	SOIL	LA-533-410		39.0	mg/kg	50.00	0.65	11/30/04 11/24/04 11/24/04
W040002413	B19196	TRENT	PO4-P	Phosphate (P) by IC	SOIL	LA-533-410	U	< 2.70	mg/kg	50.00	2.7	11/30/04 11/24/04 11/24/04
W040002413	B19196	TRENT	14808-79-8	Sulfate	SOIL	LA-533-410		50.6	mg/kg	50.00	5.0	11/30/04 11/24/04 11/24/04
W040002413	B19196	TRENT	7440-69-9	Bismuth	SOIL	LA-505-411	U	< 0.110	mg/kg	1.00	0.11	12/01/04 11/24/04 11/24/04
W040002413	B19196	TRENT	7440-02-0	Nickel	SOIL	LA-505-412		75.4	mg/kg	9.24	4.6	12/13/04 11/24/04 11/24/04
W040002413	B19196	TRENT	7440-22-4	Silver	SOIL	LA-505-412	U	< 1.85	mg/kg	9.24	1.8	12/13/04 11/24/04 11/24/04
W040002413	B19196	TRENT	7440-36-0	Antimony	SOIL	LA-505-412		8.93	mg/kg	9.24	4.6	12/13/04 11/24/04 11/24/04
W040002413	B19196	TRENT	7440-39-3	Barium	SOIL	LA-505-412		62.0	mg/kg	9.24	1.8	12/13/04 11/24/04 11/24/04
W040002413	B19196	TRENT	7440-41-7	Beryllium	SOIL	LA-505-412	U	< 2.77	mg/kg	9.24	2.8	12/13/04 11/24/04 11/24/04
W040002413	B19196	TRENT	7440-43-9	Cadmium	SOIL	LA-505-412	U	< 0.924	mg/kg	9.24	0.92	12/13/04 11/24/04 11/24/04
W040002413	B19196	TRENT	7440-47-3	Chromium	SOIL	LA-505-412		132	mg/kg	9.24	2.8	12/13/04 11/24/04 11/24/04
W040002413	B19196	TRENT	7440-50-8	Copper	SOIL	LA-505-412		16.6	mg/kg	9.24	4.6	12/13/04 11/24/04 11/24/04
W040002413	B19196	TRENT	7439-92-1	Lead	SOIL	LA-505-412		26.8	mg/kg	9.24	11	12/13/04 11/24/04 11/24/04
W040002413	B19196	TRENT	7439-97-6	Mercury	SOIL	LA-505-412		1.31	mg/kg	9.24	0.92	12/13/04 11/24/04 11/24/04
W040002413	B19196	TRENT	7440-61-1	Uranium	SOIL	LA-505-412	U	< 0.924	mg/kg	9.24	0.92	12/13/04 11/24/04 11/24/04
W040002413	B19196	TRENT	7440-38-2	Arsenic	SOIL	LA-505-412		5.67	mg/kg	9.24	2.8	12/13/04 11/24/04 11/24/04
W040002413	B19196	TRENT	7782-49-2	Selenium	SOIL	LA-505-412	U	< 2.77	mg/kg	9.24	2.8	12/13/04 11/24/04 11/24/04

MDL=Minimum Detection Limit
RQ=Result Qualifier

B - The Analyte detected in both the BLANK and the SAMPLE (org.)
J - Analyte is an estimate, has potentially larger errors

B - The analyte < the RDL but > = the IDL/MDL (inorganic)
U - Analyzed for but not detected above limiting criteria.

DF=Dilution Factor

* - Indicates results that have NOT been validated; + - Indicates more than six qualifier symbols

Report WGPPver. 1.1

Groundwater Remediation Program

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WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20042240
 Matrix: SOLID
 Test: Ammonia (N) by IC

SAF Number: F03-025
 Sample Date: 11/18/04
 Receive Date: 11/23/04

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
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Lab ID: W040002328

BATCH QC ASSOCIATED WITH SAMPLE

DUP	Ammonia (N) by IC	7664-41-7	8.90e-01	22.000	RPD	12/09/04	0.000	20.000	*
MS	Ammonia (N) by IC	7664-41-7	4.15e-01	100.728	% Recov	12/09/04	75.000	125.000	
MSD	Ammonia (N) by IC	7664-41-7	3.98e-01	96.602	% Recov	12/09/04	75.000	125.000	

BATCH QC

BLANK	Ammonia (N) by IC	7664-41-7	<4.00e-3	n/a	mg/L	12/09/04	0.000	30.000	U
BLANK	Ammonia (N) by IC	7664-41-7	<4.00e-3	n/a	mg/L	12/09/04	0.000	30.000	U
LCS	Ammonia (N) by IC	7664-41-7	8.54e+01	103.893	% Recov	12/09/04	80.000	120.000	

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January 4, 2005
Stephen Trent
Fluor Hanford, Inc.
Shaw Project Name: Eberline Hanford
Shaw Project No. 100846.34000000
SDG No. H2817

**Shaw Geotechnical
Laboratory
Oak Ridge TN
(865) 482-6497**

SPECIFIC GRAVITY

ASTM C 127 ASTM D 854

PROJECT NAME:

Eberline Hanford

PROJECT NUMBER:

100846.34

* Saturated Surface Dry

00000011

WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20042240

Matrix: SOLID

Test: Anions by Ion Chromatography

SAF Number: F03-025

Sample Date:

Receive Date:

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
BLANK	Nitrogen in Nitrate	NO3-N	<1.30e-2	n/a	mg/L	11/30/04	0.000	300.000	U
BLANK	Nitrogen in Nitrate	NO3-N	<1.30e-2	n/a	mg/L	11/30/04	0.000	300.000	U
BLANK	Phosphate (P) by IC	PO4-P	<5.40e-2	n/a	mg/L	11/30/04	0.000	300.000	U
BLANK	Phosphate (P) by IC	PO4-P	<5.40e-2	n/a	mg/L	11/30/04	0.000	300.000	U
BLANK	Sulfate	14808-79-8	<1.00e-1	n/a	mg/L	11/30/04	0.000	300.000	U
BLANK	Sulfate	14808-79-8	<1.00e-1	n/a	mg/L	11/30/04	0.000	300.000	U
LCS	Chloride	16887-00-6	2.05e+02	102.500	% Recov	11/30/04	80.000	120.000	
LCS	Fluoride	16984-48-8	9.00e+01	91.185	% Recov	11/30/04	80.000	120.000	
LCS	Nitrogen in Nitrite	NO2-N	9.57e+01	95.700	% Recov	11/30/04	80.000	120.000	
LCS	Nitrogen in Nitrate	NO3-N	8.94e+01	99.223	% Recov	11/30/04	80.000	120.000	
LCS	Phosphate (P) by IC	PO4-P	1.91e+02	98.555	% Recov	11/30/04	80.000	120.000	
LCS	Sulfate	14808-79-8	3.77e+02	94.486	% Recov	11/30/04	80.000	120.000	

WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20042240

Matrix: SOLID

Test: Cyanide by Midi/Spectrophotom

SAF Number: F03-025

Sample Date: 11/22/04

Receive Date: 11/23/04

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
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Lab ID: W040002329

BATCH QC ASSOCIATED WITH SAMPLE

MS	Cyanide by Midi/Spectrophotom	57-12-5	92.2	92.200	% Recov	12/01/04	75.000	125.000	
MSD	Cyanide by Midi/Spectrophotom	57-12-5	89.6	89.600	% Recov	12/01/04	75.000	125.000	
SPK-RPD	Cyanide by Midi/Spectrophotom	57-12-5	89.600	2.860	RPD	12/01/04	0.000	20.000	

BATCH QC

BLANK	Cyanide by Midi/Spectrophotom	57-12-5	1	1.000	ug/L	12/01/04	-4.000	4.000	
BLNK-PREP	Cyanide by Midi/Spectrophotom	57-12-5	1	1.000	ug/L	12/01/04	-4.000	4.000	
LCS	Cyanide by Midi/Spectrophotom	57-12-5	99.5	99.500	% Recov	12/01/04	85.000	115.000	

WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20042240

Matrix: SOLID

Test: ICP Metals Analysis, Grd H2O P

SAF Number: F03-025

Sample Date: 10/27/04

Receive Date: 11/01/04

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
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Lab ID: W040002092

BATCH QC ASSOCIATED WITH SAMPLE

MS	Bismuth	7440-69-9	487.382	99.771	% Recov	12/01/04	75.000	125.000	
MSD	Bismuth	7440-69-9	494.482	99.573	% Recov	12/01/04	75.000	125.000	
SPK-RPD	Bismuth	7440-69-9	99.573	0.199	RPD	12/01/04	0.000	20.000	

BATCH QC

BLANK	Bismuth	7440-69-9	110.7	110.700	ug/L	12/01/04	-1.000	0.068	*
LCS	Bismuth	7440-69-9	207.1	103.550	% Recov	12/01/04	80.000	120.000	

WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20042240

Matrix: SOLID

Test: ICP-2008 MS All possible metal

SAF Number: F03-025

Sample Date: 11/24/04

Receive Date: 11/24/04

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
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Lab ID: W040002413

BATCH QC ASSOCIATED WITH SAMPLE

MS	Silver	7440-22-4	280.8	70.200	% Recov	12/13/04	70.000	130.000	
MS	Arsenic	7440-38-2	386.93	96.733	% Recov	12/13/04	70.000	130.000	
MS	Barium	7440-39-3	383.72	95.930	% Recov	12/13/04	70.000	130.000	
MS	Beryllium	7440-41-7	380.5	95.125	% Recov	12/13/04	70.000	130.000	
MS	Cadmium	7440-43-9	410	102.500	% Recov	12/13/04	70.000	130.000	
MS	Chromium	7440-47-3	287	71.750	% Recov	12/13/04	70.000	130.000	
MS	Copper	7440-50-8	383.08	95.770	% Recov	12/13/04	70.000	130.000	
MS	Mercury	7439-97-6	18.15	90.750	% Recov	12/13/04	70.000	130.000	
MS	Nickel	7440-02-0	339.75	84.938	% Recov	12/13/04	70.000	130.000	
MS	Lead	7439-92-1	390.21	97.552	% Recov	12/13/04	70.000	130.000	
MS	Antimony	7440-36-0	394.27	98.567	% Recov	12/13/04	70.000	130.000	
MS	Selenium	7782-49-2	436.6	109.150	% Recov	12/13/04	70.000	130.000	
MS	Uranium	7440-61-1	418.1	104.525	% Recov	12/13/04	70.000	130.000	
MSD	Silver	7440-22-4	288.9	72.225	% Recov	12/13/04	70.000	130.000	
MSD	Arsenic	7440-38-2	400.03	100.007	% Recov	12/13/04	70.000	130.000	
MSD	Barium	7440-39-3	390.92	97.730	% Recov	12/13/04	70.000	130.000	
MSD	Beryllium	7440-41-7	401.4	100.350	% Recov	12/13/04	70.000	130.000	
MSD	Cadmium	7440-43-9	421.9	105.475	% Recov	12/13/04	70.000	130.000	
MSD	Chromium	7440-47-3	290.7	72.675	% Recov	12/13/04	70.000	130.000	
MSD	Copper	7440-50-8	385.98	96.495	% Recov	12/13/04	70.000	130.000	
MSD	Mercury	7439-97-6	19.1	95.500	% Recov	12/13/04	70.000	130.000	
MSD	Nickel	7440-02-0	342.55	85.638	% Recov	12/13/04	70.000	130.000	
MSD	Lead	7439-92-1	414.11	103.527	% Recov	12/13/04	70.000	130.000	
MSD	Antimony	7440-36-0	413.07	103.267	% Recov	12/13/04	70.000	130.000	
MSD	Selenium	7782-49-2	450.7	112.675	% Recov	12/13/04	70.000	130.000	
MSD	Uranium	7440-61-1	434.2	108.550	% Recov	12/13/04	70.000	130.000	

WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20042240

Matrix: SOLID

Test: ICP-2008 MS All possible metal

SAF Number: F03-025

Sample Date: 11/24/04

Receive Date: 11/24/04

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
SPK-RPD	Silver	7440-22-4	72.225	2.844	RPD	12/13/04	0.000	20.000	
SPK-RPD	Arsenic	7440-38-2	100.007	3.328	RPD	12/13/04	0.000	20.000	
SPK-RPD	Barium	7440-39-3	97.730	1.859	RPD	12/13/04	0.000	20.000	
SPK-RPD	Beryllium	7440-41-7	100.350	5.346	RPD	12/13/04	0.000	20.000	
SPK-RPD	Cadmium	7440-43-9	105.475	2.861	RPD	12/13/04	0.000	20.000	
SPK-RPD	Chromium	7440-47-3	72.675	1.281	RPD	12/13/04	0.000	20.000	
SPK-RPD	Copper	7440-50-8	96.495	0.754	RPD	12/13/04	0.000	20.000	
SPK-RPD	Mercury	7439-97-6	95.500	5.101	RPD	12/13/04	0.000	20.000	
SPK-RPD	Nickel	7440-02-0	85.638	0.821	RPD	12/13/04	0.000	20.000	
SPK-RPD	Lead	7439-92-1	103.527	5.943	RPD	12/13/04	0.000	20.000	
SPK-RPD	Antimony	7440-36-0	103.267	4.657	RPD	12/13/04	0.000	20.000	
SPK-RPD	Selenium	7782-49-2	112.675	3.178	RPD	12/13/04	0.000	20.000	
SPK-RPD	Uranium	7440-61-1	108.550	3.778	RPD	12/13/04	0.000	20.000	

BATCH QC

BLANK	Silver	7440-22-4	0.97	0.970	ug/L	12/13/04	-0.440	0.440	*
BLANK	Arsenic	7440-38-2	0.56	0.560	ug/L	12/13/04	-0.660	0.660	
BLANK	Barium	7440-39-3	0.45	0.450	ug/L	12/13/04	-0.440	0.440	*
BLANK	Beryllium	7440-41-7	<0.3	n/a	ug/L	12/13/04	-0.660	0.660	U
BLANK	Cadmium	7440-43-9	0.15	0.150	ug/L	12/13/04	-0.220	0.220	
BLANK	Chromium	7440-47-3	0.55	0.550	ug/L	12/13/04	-0.660	0.660	
BLANK	Copper	7440-50-8	0.53	0.530	ug/L	12/13/04	-1.100	1.100	
BLANK	Mercury	7439-97-6	0.26	0.260	ug/L	12/13/04	-0.220	0.220	*
BLANK	Nickel	7440-02-0	<0.5	n/a	ug/L	12/13/04	-1.100	1.100	U
BLANK	Lead	7439-92-1	<1.2	n/a	ug/L	12/13/04	-2.640	2.640	U
BLANK	Antimony	7440-36-0	0.75	0.750	ug/L	12/13/04	-1.100	1.100	
BLANK	Selenium	7782-49-2	<0.3	n/a	ug/L	12/13/04	-0.660	0.660	U
BLANK	Uranium	7440-61-1	<0.1	n/a	ug/L	12/13/04	-0.220	0.220	U
LCS	Silver	7440-22-4	163.5	137.395	% Recov	12/13/04	110.000	170.000	
LCS	Arsenic	7440-38-2	197.9	101.487	% Recov	12/13/04	82.000	142.000	

WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20042240

Matrix: SOLID

Test: ICP-2008 MS All possible metal

SAF Number: F03-025

Sample Date:

Receive Date:

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
LCS	Barium	7440-39-3	373.6	95.306	% Recov	12/13/04	79.000	123.000	
LCS	Beryllium	7440-41-7	74.9	99.469	% Recov	12/13/04	82.000	128.000	
LCS	Cadmium	7440-43-9	76.45	111.443	% Recov	12/13/04	88.000	127.000	
LCS	Chromium	7440-47-3	84.46	97.642	% Recov	12/13/04	50.000	126.000	
LCS	Copper	7440-50-8	130.6	102.835	% Recov	12/13/04	61.000	134.000	
LCS	Mercury	7439-97-6	8.95	95.112	% Recov	12/13/04	75.000	114.000	
LCS	Nickel	7440-02-0	91.02	108.876	% Recov	12/13/04	84.000	125.000	
LCS	Lead	7439-92-1	99.57	105.365	% Recov	12/13/04	87.000	120.000	
LCS	Antimony	7440-36-0	155	112.319	% Recov	12/13/04	61.000	135.000	
LCS	Selenium	7782-49-2	132.5	116.228	% Recov	12/13/04	83.000	145.000	
LCS	Uranium	7440-61-1	436.7	109.175	% Recov	12/13/04	89.000	107.000	*

WSCF

ANALYTICAL RESULTS REPORT

**Attention:
Project:**

Steve Trent
F03-025: F03-025

Group #: WSCF20042240

Sample #	Client ID	CAS #	Test Performed	Matrix	WSCF		Result	Unit	DF	MDL	Analyze Sample	Receive
					Method	RQ						
Organic												
W040002413	B19196	TRENT	107-21-1	Ethylene glycol	SOIL	Organics	U	< 5.00e +03	ug/kg	1.00	5.0e +03	11/30/04 11/24/04 11/24/04
W040002413	B19196	TRENT	TPH/GASOLINE	Total Pet. Hydrocarbons Gas	SOIL	LA-523-443	U	< 250	ug/kg	1.00	2.5e +02	12/02/04 11/24/04 11/24/04
W040002413	B19196	TRENT	12674-11-2	Aroclor-1016	SOIL	LA-523-427	U	< 57.0	ug/kg	1.00	57	11/30/04 11/24/04 11/24/04
W040002413	B19196	TRENT	11104-28-2	Aroclor-1221	SOIL	LA-523-427	U	< 110	ug/kg	1.00	1.1e +02	11/30/04 11/24/04 11/24/04
W040002413	B19196	TRENT	11141-16-5	Aroclor-1232	SOIL	LA-523-427	U	< 57.0	ug/kg	1.00	57	11/30/04 11/24/04 11/24/04
W040002413	B19196	TRENT	53469-21-9	Aroclor-1242	SOIL	LA-523-427	U	< 57.0	ug/kg	1.00	57	11/30/04 11/24/04 11/24/04
W040002413	B19196	TRENT	12672-29-6	Aroclor-1248	SOIL	LA-523-427	U	< 57.0	ug/kg	1.00	57	11/30/04 11/24/04 11/24/04
W040002413	B19196	TRENT	11097-69-1	Aroclor-1254	SOIL	LA-523-427	U	< 57.0	ug/kg	1.00	57	11/30/04 11/24/04 11/24/04
W040002413	B19196	TRENT	11096-82-5	Aroclor-1260	SOIL	LA-523-427	U	< 57.0	ug/kg	1.00	57	11/30/04 11/24/04 11/24/04
W040002413	B19196	TRENT	37324-23-5	Aroclor-1262	SOIL	LA-523-427	U	< 57.0	ug/kg	1.00	57	11/30/04 11/24/04 11/24/04
W040002413	B19196	TRENT	11100-14-4	Aroclor-1268	SOIL	LA-523-427	U	< 57.0	ug/kg	1.00	57	11/30/04 11/24/04 11/24/04
W040002413	B19196	TRENT	100-02-7	4-Nitrophenol	SOIL	LA-523-456	U	< 500	ug/kg	1.00	5.0e +02	12/07/04 11/24/04 11/24/04
W040002413	B19196	TRENT	106-46-7	1,4-Dichlorobenzene	SOIL	LA-523-456	U	< 240	ug/kg	1.00	2.4e +02	12/07/04 11/24/04 11/24/04
W040002413	B19196	TRENT	108-95-2	Phenol	SOIL	LA-523-456	U	< 77.0	ug/kg	1.00	77	12/07/04 11/24/04 11/24/04
W040002413	B19196	TRENT	120-82-1	1,2,4-Trichlorobenzene	SOIL	LA-523-456	U	< 230	ug/kg	1.00	2.3e +02	12/07/04 11/24/04 11/24/04
W040002413	B19196	TRENT	121-14-2	2,4-Dinitrotoluene	SOIL	LA-523-456	U	< 52.0	ug/kg	1.00	52	12/07/04 11/24/04 11/24/04
W040002413	B19196	TRENT	129-00-0	Pyrene	SOIL	LA-523-456	U	< 52.0	ug/kg	1.00	52	12/07/04 11/24/04 11/24/04
W040002413	B19196	TRENT	59-50-7	4-Chloro-3-methylphenol	SOIL	LA-523-456	U	< 52.0	ug/kg	1.00	52	12/07/04 11/24/04 11/24/04
W040002413	B19196	TRENT	621-64-7	N-Nitrosodi-n-dipropylamine	SOIL	LA-523-456	U	< 52.0	ug/kg	1.00	52	12/07/04 11/24/04 11/24/04
W040002413	B19196	TRENT	83-32-9	Acenaphthene	SOIL	LA-523-456	U	< 52.0	ug/kg	1.00	52	12/07/04 11/24/04 11/24/04
W040002413	B19196	TRENT	87-86-5	Pentachlorophenol	SOIL	LA-523-456	U	< 230	ug/kg	1.00	2.3e +02	12/07/04 11/24/04 11/24/04
W040002413	B19196	TRENT	95-57-8	2-Chlorophenol	SOIL	LA-523-456	U	< 110	ug/kg	1.00	1.1e +02	12/07/04 11/24/04 11/24/04
W040002413	B19196	TRENT	126-73-8	Tributyl phosphate	SOIL	LA-523-456	U	< 52.0	ug/kg	1.00	52	12/07/04 11/24/04 11/24/04
W040002413	B19196	TRENT	75-35-4	1,1-Dichloroethene	SOIL	LA-523-455	U	< 2.10	ug/kg	1.00	2.1	12/01/04 11/24/04 11/24/04
W040002413	B19196	TRENT	79-01-6	Trichloroethene	SOIL	LA-523-455	U	< 2.10	ug/kg	1.00	2.1	12/01/04 11/24/04 11/24/04
W040002413	B19196	TRENT	71-43-2	Benzene	SOIL	LA-523-455	U	< 2.10	ug/kg	1.00	2.1	12/01/04 11/24/04 11/24/04

MDL=Minimum Detection Limit

B - The Analyte detected in both the BLANK and the SAMPLE (org.)

B - The analyte < the RDL but > = the IDL/MDL (inorganic)

RQ=Result Qualifier

J - Analyte is an estimate, has potentially larger errors

U - Analyzed for but not detected above limiting criteria.

DF=Dilution Factor

* - Indicates results that have NOT been validated; + - Indicates more than six qualifier symbols

Report WGPP/ver. 1.1

Groundwater Remediation Program

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WSCF

ANALYTICAL RESULTS REPORT

Attention: Steve Trent **Group #:** WSCF20042240
Project: F03-025 **Sample #**

Sample #	Client ID	CAS #	Test Performed	Matrix	WSCF		Unit	DF	MDL	Analyze Sample	Receive	
					Method	RQ						
W040002413	B19196	TRENT	108-88-3	Toluene	SOIL	LA-523-455	BJ	2.30	ug/kg	1.00	2.1	12/01/04 11/24/04 11/24/04
W040002413	B19196	TRENT	108-90-7	Chlorobenzene	SOIL	LA-523-455	U	< 2.10	ug/kg	1.00	2.1	12/01/04 11/24/04 11/24/04
W040002413	B19196	TRENT	75-34-3	1,1-Dichloroethane	SOIL	LA-523-455	U	< 2.10	ug/kg	1.00	2.1	12/01/04 11/24/04 11/24/04
W040002413	B19196	TRENT	100-41-4	Ethylbenzene	SOIL	LA-523-455	U	< 2.10	ug/kg	1.00	2.1	12/01/04 11/24/04 11/24/04
W040002413	B19196	TRENT	100-42-5	Styrene	SOIL	LA-523-455	U	< 2.10	ug/kg	1.00	2.1	12/01/04 11/24/04 11/24/04
W040002413	B19196	TRENT	10061-01-5	cis-1,3-Dichloropropene	SOIL	LA-523-455	U	< 2.10	ug/kg	1.00	2.1	12/01/04 11/24/04 11/24/04
W040002413	B19196	TRENT	10061-02-6	trans-1,3-Dichloropropene	SOIL	LA-523-455	U	< 2.10	ug/kg	1.00	2.1	12/01/04 11/24/04 11/24/04
W040002413	B19196	TRENT	107-06-2	1,2-Dichloroethane	SOIL	LA-523-455	U	< 2.10	ug/kg	1.00	2.1	12/01/04 11/24/04 11/24/04
W040002413	B19196	TRENT	108-10-1	4-Methyl-2-Pentanone	SOIL	LA-523-455	U	< 2.10	ug/kg	1.00	2.1	12/01/04 11/24/04 11/24/04
W040002413	B19196	TRENT	124-48-1	Dibromochloromethane	SOIL	LA-523-455	U	< 2.10	ug/kg	1.00	2.1	12/01/04 11/24/04 11/24/04
W040002413	B19196	TRENT	127-18-4	Tetrachloroethene	SOIL	LA-523-455	U	< 2.10	ug/kg	1.00	2.1	12/01/04 11/24/04 11/24/04
W040002413	B19196	TRENT	1330-20-7	Xylenes (total)	SOIL	LA-523-455	U	< 2.10	ug/kg	1.00	2.1	12/01/04 11/24/04 11/24/04
W040002413	B19196	TRENT	540-59-0	1,2-Dichloroethene(Total)	SOIL	LA-523-455	U	< 2.10	ug/kg	1.00	2.1	12/01/04 11/24/04 11/24/04
W040002413	B19196	TRENT	56-23-5	Carbon tetrachloride	SOIL	LA-523-455	U	< 2.10	ug/kg	1.00	2.1	12/01/04 11/24/04 11/24/04
W040002413	B19196	TRENT	591-78-6	2-Hexanone	SOIL	LA-523-455	U	< 2.10	ug/kg	1.00	2.1	12/01/04 11/24/04 11/24/04
W040002413	B19196	TRENT	67-64-1	Acetone	SOIL	LA-523-455	U	< 2.10	ug/kg	1.00	2.1	12/01/04 11/24/04 11/24/04
W040002413	B19196	TRENT	67-66-3	Chloroform	SOIL	LA-523-455	U	< 2.10	ug/kg	1.00	2.1	12/01/04 11/24/04 11/24/04
W040002413	B19196	TRENT	71-55-6	1,1,1-Trichloroethane	SOIL	LA-523-455	U	< 2.10	ug/kg	1.00	2.1	12/01/04 11/24/04 11/24/04
W040002413	B19196	TRENT	74-83-9	Bromomethane	SOIL	LA-523-455	U	< 2.10	ug/kg	1.00	2.1	12/01/04 11/24/04 11/24/04
W040002413	B19196	TRENT	74-87-3	Chloromethane	SOIL	LA-523-455	U	< 2.10	ug/kg	1.00	2.1	12/01/04 11/24/04 11/24/04
W040002413	B19196	TRENT	75-00-3	Chloroethane	SOIL	LA-523-455	U	< 2.10	ug/kg	1.00	2.1	12/01/04 11/24/04 11/24/04
W040002413	B19196	TRENT	75-01-4	Vinyl chloride	SOIL	LA-523-455	U	< 2.10	ug/kg	1.00	2.1	12/01/04 11/24/04 11/24/04
W040002413	B19196	TRENT	75-09-2	Methylenechloride	SOIL	LA-523-455	U	< 2.10	ug/kg	1.00	2.1	12/01/04 11/24/04 11/24/04
W040002413	B19196	TRENT	75-15-0	Carbon disulfide	SOIL	LA-523-455	U	< 2.10	ug/kg	1.00	2.1	12/01/04 11/24/04 11/24/04
W040002413	B19196	TRENT	75-25-2	Bromoform	SOIL	LA-523-455	U	< 2.10	ug/kg	1.00	2.1	12/01/04 11/24/04 11/24/04
W040002413	B19196	TRENT	75-27-4	Bromodichloromethane	SOIL	LA-523-455	U	< 2.10	ug/kg	1.00	2.1	12/01/04 11/24/04 11/24/04
W040002413	B19196	TRENT	78-87-5	1,2-Dichloropropane	SOIL	LA-523-455	U	< 2.10	ug/kg	1.00	2.1	12/01/04 11/24/04 11/24/04

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Report WGPP/ver. 1.1

Groundwater Remediation Program

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WSCF

ANALYTICAL RESULTS REPORT

Attention: Steve Trent **Group #:** WSCF20042240
Project: F03-025: F03-025

Sample #	Client ID	CAS #	Test Performed	Matrix	WSCF		Result	Unit	DF	MDL	Analyze Sample	Receive
					Method	RQ						
W040002413	B19196	TRENT	78-93-3	2-Butanone	SOIL	LA-523-455	U	< 2.10	ug/kg	1.00	2.1	12/01/04 11/24/04 11/24/04
W040002413	B19196	TRENT	79-00-5	1,1,2-Trichloroethane	SOIL	LA-523-455	U	< 2.10	ug/kg	1.00	2.1	12/01/04 11/24/04 11/24/04
W040002413	B19196	TRENT	79-34-5	1,1,2,2-Tetrachloroethane	SOIL	LA-523-455	U	< 2.10	ug/kg	1.00	2.1	12/01/04 11/24/04 11/24/04
W040002413	B19196	TRENT	71-36-3	1-Butanol	SOIL	LA-523-455	U	< 41.0	ug/kg	1.00	41	12/01/04 11/24/04 11/24/04
W040002413	B19196	TRENT	TPHDIESEL	Total Pet. Hydrocarbons Diesel	SOIL	NWTPH		1.30e+04	ug/kg	1.00	5.1e+03	12/06/04 11/24/04 11/24/04
W040002413	B19196	TRENT	TPHKEROSENE	Kerosene	SOIL	NWTPH		1.30e+04	ug/kg	1.00	5.1e+03	12/06/04 11/24/04 11/24/04

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Report WGPP/ver. 1.1

Groundwater Remediation Program

WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20042240
 Matrix: SOLID
 Test: Alcohols, Glycols - 8015

SAF Number: F03-025
 Sample Date: 11/24/04
 Receive Date: 11/24/04

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
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Lab ID: W040002413

BATCH QC ASSOCIATED WITH SAMPLE

DUP	2-Bromoethanol	540-51-2	7300	2.703	rpd	11/30/04	0.000	25.000	
DUP	Ethylene glycol	107-21-1	<5000	n/a	RPD	11/30/04	0.000	25.000	U
MS	2-Bromoethanol	540-51-2	7200	72.000	% Recov	11/30/04	70.000	125.000	
MS	Ethylene glycol	107-21-1	9800	98.000	% Recov	11/30/04	75.000	125.000	
MSD	2-Bromoethanol	540-51-2	7500	75.000	% Recov	11/30/04	70.000	125.000	
MSD	Ethylene glycol	107-21-1	10800	108.000	% Recov	11/30/04	75.000	125.000	
SPK-RPD	2-Bromoethanol	540-51-2	75.000	4.082	RPD	11/30/04	0.000	20.000	
SPK-RPD	Ethylene glycol	107-21-1	108.000	9.709	RPD	11/30/04	0.000	20.000	

BATCH QC

BLANK	2-Bromoethanol	540-51-2	8100	0.810	ug/Kg	11/30/04	0.000	10.000	
BLANK	Ethylene glycol	107-21-1	<5000	n/a	ug/Kg	11/30/04	0.000	5.000	U
LCS	2-Bromoethanol	540-51-2	8000	80.000	% Recov	11/30/04	70.000	130.000	
LCS	Ethylene glycol	107-21-1	11000	110.000	% Recov	11/30/04	70.000	130.000	

WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20042240
 Matrix: SOLID
 Test: PCBs complete list

SAF Number: F03-025
 Sample Date: 11/24/04
 Receive Date: 11/24/04

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
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Lab ID: W040002413

BATCH QC ASSOCIATED WITH SAMPLE

MS	Aroclor-1260	11096-82-5	1069.1	93.800	% Recov	11/30/04	75.000	125.000	
MS	Decachlorobiphenyl	2051-24-3	1083.2	95.100	% Recov	11/30/04	50.000	150.000	
MS	Tetrachloro-m-xylene	877-09-8	1082.9	95.100	% Recov	11/30/04	50.000	150.000	
MSD	Aroclor-1260	11096-82-5	1074.4	93.200	% Recov	11/30/04	75.000	125.000	
MSD	Decachlorobiphenyl	2051-24-3	1112.5	96.500	% Recov	11/30/04	50.000	150.000	
MSD	Tetrachloro-m-xylene	877-09-8	1120.9	97.200	% Recov	11/30/04	50.000	150.000	
SPK-RPD	Aroclor-1260	11096-82-5	93.200	0.642	RPD	11/30/04	0.000	25.000	
SPK-RPD	Decachlorobiphenyl	2051-24-3	96.500	1.461	RPD	11/30/04	0.000	20.000	
SPK-RPD	Tetrachloro-m-xylene	877-09-8	97.200	2.184	RPD	11/30/04	0.000	20.000	
SURR	Decachlorobiphenyl	2051-24-3	1170.7	102.000	% Recov	11/30/04	50.000	150.000	
SURR	Tetrachloro-m-xylene	877-09-8	1134.1	98.900	% Recov	11/30/04	50.000	150.000	

BATCH QC

BLANK	Aroclor-1016	12674-11-2	< 50	n/a	UGKG	11/30/04		U	
BLANK	Aroclor-1221	11104-28-2	< 100	n/a	ug/Kg	11/30/04		U	
BLANK	Aroclor-1232	11141-16-5	< 50	n/a	ug/Kg	11/30/04		U	
BLANK	Aroclor-1242	53469-21-9	< 50	n/a	ug/Kg	11/30/04		U	
BLANK	Aroclor-1248	12672-29-6	< 50	n/a	ug/Kg	11/30/04		U	
BLANK	Aroclor-1254	11097-69-1	< 50	n/a	ug/Kg	11/30/04		U	
BLANK	Aroclor-1260	11096-82-5	< 50	n/a	ug/Kg	11/30/04		U	
BLANK	Aroclor-1262	37324-23-5	< 50	n/a	ug/Kg	11/30/04		U	
BLANK	Aroclor-1268	11100-14-4	< 50	n/a	ug/Kg	11/30/04		U	
BLANK	Decachlorobiphenyl	2051-24-3	972.22	97.200	% Recov	11/30/04	50.000	150.000	
BLANK	Tetrachloro-m-xylene	877-09-8	984.68	98.500	% Recov	11/30/04	50.000	150.000	
LCS	Aroclor-1260	11096-82-5	931.36	93.100	% Recov	11/30/04	70.000	130.000	
LCS	Decachlorobiphenyl	2051-24-3	975.92	97.600	% Recov	11/30/04	50.000	150.000	

WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20042240
Matrix: SOLID
Test: PCBs complete list

SAF Number: F03-025
Sample Date:
Receive Date:

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
LCS	Tetrachloro-m-xylene	877-09-8	980.86	98.100	% Recov	11/30/04	50.000	150.000	

WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20042240
 Matrix: SOLID
 Test: SW-846 8270B Semi-Vols

SAF Number: F03-025
 Sample Date: 11/24/04
 Receive Date: 11/24/04

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
Lab ID: W040002413									
BATCH QC ASSOCIATED WITH SAMPLE									
MS	1,2,4-Trichlorobenzene	120-82-1	2131.6	82.400	% Recov	12/07/04	46.000	107.000	
MS	1,4-Dichlorobenzene	106-46-7	1991.6	77.000	% Recov	12/07/04	30.000	96.000	
MS	2,4-Dinitrotoluene	121-14-2	1786.9	69.100	% Recov	12/07/04	59.000	106.000	
MS	2-Fluorophenol	367-12-4	2062.2	79.700	% Recov	12/07/04	42.000	105.000	
MS	Acenaphthene	83-32-9	2277.8	88.000	% Recov	12/07/04	61.000	116.000	
MS	4-Chloro-3-methylphenol	59-50-7	3354.4	86.400	% Recov	12/07/04	61.000	106.000	
MS	2-Chlorophenol	95-57-8	3021.8	77.900	% Recov	12/07/04	66.000	106.000	
MS	N-Nitrosodi-n-dipropylamine	621-64-7	2403.7	92.900	% Recov	12/07/04	71.000	114.000	
MS	2-Fluorobiphenyl	321-60-8	2246.8	86.800	% Recov	12/07/04	56.000	122.000	
MS	Phenol	108-95-2	3360.2	86.600	% Recov	12/07/04	42.000	111.000	
MS	Nitrobenzene-d5	4165-60-0	1875.7	72.500	% Recov	12/07/04	64.000	111.000	
MS	4-Nitrophenol	100-02-7	2508.0	64.600	% Recov	12/07/04	32.000	118.000	
MS	Pentachlorophenol	87-86-5	2467.8	63.600	% Recov	12/07/04	62.000	114.000	
MS	Phenol-d5	4165-62-2	2299.0	88.900	% Recov	12/07/04	54.000	120.000	
MS	Pyrene	129-00-0	2011.9	77.800	% Recov	12/07/04	66.000	118.000	
MS	2,4,6-Tribromophenol	118-79-6	2180.2	84.300	% Recov	12/07/04	24.000	122.000	
MS	Terphenyl-d14 (7Cl)	98904-43-9	2100.8	81.200	% Recov	12/07/04	35.000	150.000	
MSD	1,2,4-Trichlorobenzene	120-82-1	2285.4	88.500	% Recov	12/07/04	46.000	107.000	
MSD	1,4-Dichlorobenzene	106-46-7	2115.1	81.900	% Recov	12/07/04	30.000	96.000	
MSD	2,4-Dinitrotoluene	121-14-2	2014.7	78.000	% Recov	12/07/04	59.000	106.000	
MSD	2-Fluorophenol	367-12-4	2076.4	80.400	% Recov	12/07/04	42.000	105.000	
MSD	Acenaphthene	83-32-9	2379.7	92.200	% Recov	12/07/04	61.000	116.000	
MSD	4-Chloro-3-methylphenol	59-50-7	3373.3	87.100	% Recov	12/07/04	61.000	106.000	
MSD	2-Chlorophenol	95-57-8	3114.3	80.400	% Recov	12/07/04	66.000	106.000	
MSD	N-Nitrosodi-n-dipropylamine	621-64-7	2734.5	106.000	% Recov	12/07/04	71.000	114.000	
MSD	2-Fluorobiphenyl	321-60-8	2361.8	91.500	% Recov	12/07/04	56.000	122.000	

WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20042240
 Matrix: SOLID
 Test: SW-846 8270B Semi-Vols

SAF Number: F03-025
 Sample Date: 11/24/04
 Receive Date: 11/24/04

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
MSD	Phenol	108-95-2	3436.2	88.700	% Recov	12/07/04	42.000	111.000	
MSD	Nitrobenzene-d5	4165-60-0	2248.0	87.100	% Recov	12/07/04	64.000	111.000	
MSD	4-Nitrophenol	100-02-7	2979.2	76.900	% Recov	12/07/04	32.000	118.000	
MSD	Pentachlorophenol	87-86-5	2448.9	63.200	% Recov	12/07/04	62.000	114.000	
MSD	Phenol-d5	4165-62-2	2384.2	92.300	% Recov	12/07/04	54.000	120.000	
MSD	Pyrene	129-00-0	2177.5	84.300	% Recov	12/07/04	66.000	118.000	
MSD	2,4,6-Tribromophenol	118-79-6	1963.0	76.000	% Recov	12/07/04	24.000	122.000	
MSD	Terphenyl-d14 (7Cl)	98904-43-9	2279.9	88.300	% Recov	12/07/04	35.000	150.000	
SPK-RPD	1,2,4-Trichlorobenzene	120-82-1	88.500	7.139	RPD	12/07/04	0.000	20.000	
SPK-RPD	1,4-Dichlorobenzene	106-46-7	81.900	6.167	RPD	12/07/04	0.000	20.000	
SPK-RPD	2,4-Dinitrotoluene	121-14-2	78.000	12.101	RPD	12/07/04	0.000	20.000	
SPK-RPD	2-Fluorophenol	367-12-4	80.400	0.874	RPD	12/07/04	0.000	20.000	
SPK-RPD	Acenaphthene	83-32-9	92.200	4.661	RPD	12/07/04	0.000	20.000	
SPK-RPD	4-Chloro-3-methylphenol	59-50-7	87.100	0.807	RPD	12/07/04	0.000	20.000	
SPK-RPD	2-Chlorophenol	95-57-8	80.400	3.159	RPD	12/07/04	0.000	20.000	
SPK-RPD	N-Nitrosodi-n-dipropylamine	621-64-7	106.000	13.172	RPD	12/07/04	0.000	20.000	
SPK-RPD	2-Fluorobiphenyl	321-60-8	91.500	5.272	RPD	12/07/04	0.000	20.000	
SPK-RPD	Phenol	108-95-2	88.700	2.396	RPD	12/07/04	0.000	20.000	
SPK-RPD	Nitrobenzene-d5	4165-60-0	87.100	18.296	RPD	12/07/04	0.000	20.000	
SPK-RPD	4-Nitrophenol	100-02-7	76.900	17.385	RPD	12/07/04	0.000	20.000	
SPK-RPD	Pentachlorophenol	87-86-5	63.200	0.631	RPD	12/07/04	0.000	20.000	
SPK-RPD	Phenol-d5	4165-62-2	92.300	3.753	RPD	12/07/04	0.000	20.000	
SPK-RPD	Pyrene	129-00-0	84.300	8.020	RPD	12/07/04	0.000	20.000	
SPK-RPD	2,4,6-Tribromophenol	118-79-6	76.000	10.356	RPD	12/07/04	0.000	20.000	
SPK-RPD	Terphenyl-d14 (7Cl)	98904-43-9	88.300	8.378	RPD	12/07/04	0.000	20.000	
SURR	2-Fluorophenol	367-12-4	1824.3	70.600	% Recov	12/07/04	42.000	105.000	
SURR	2-Fluorobiphenyl	321-60-8	2392.8	92.700	% Recov	12/07/04	56.000	122.000	
SURR	Nitrobenzene-d5	4165-60-0	1928.0	74.700	% Recov	12/07/04	64.000	111.000	
SURR	Phenol-d5	4165-62-2	2152.1	83.300	% Recov	12/07/04	54.000	120.000	
SURR	2,4,6-Tribromophenol	118-79-6	1705.8	66.100	% Recov	12/07/04	24.000	122.000	

WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20042240

Matrix: SOLID

Test: SW-846 8270B Semi-Vols

SAF Number: F03-025

Sample Date: 11/24/04

Receive Date: 11/24/04

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
SURR	Terphenyl-d14 (7Cl)	98904-43-9	2214.6	85.800	% Recov	12/07/04	35.000	150.000	

BATCH QC

BLANK	1,2,4-Trichlorobenzene	120-82-1	< 220	n/a	ug/Kg	12/07/04			U
BLANK	1,4-Dichlorobenzene	106-46-7	< 230	n/a	ug/Kg	12/07/04			U
BLANK	2,4-Dinitrotoluene	121-14-2	< 50	n/a	ug/Kg	12/07/04			U
BLANK	2-Fluorophenol	367-12-4	2108.3	84.300	% Recov	12/07/04	42.000	105.000	
BLANK	Acenaphthene	83-32-9	< 50	n/a	ug/Kg	12/07/04			U
BLANK	4-Chloro-3-methylphenol	59-50-7	< 50	n/a	ug/Kg	12/07/04			U
BLANK	2-Chlorophenol	95-57-8	< 110	n/a	ug/Kg	12/07/04			U
BLANK	N-Nitrosodi-n-dipropylamine	621-64-7	< 50	n/a	ug/Kg	12/07/04			U
BLANK	2-Fluorobiphenyl	321-60-8	2408.1	96.300	% Recov	12/07/04	56.000	122.000	
BLANK	Phenol	108-95-2	< 75	n/a	ug/Kg	12/07/04			U
BLANK	Nitrobenzene-d5	4165-60-0	1943.1	77.700	% Recov	12/07/04	64.000	111.000	
BLANK	4-Nitrophenol	100-02-7	< 480	n/a	ug/Kg	12/07/04			U
BLANK	Pentachlorophenol	87-86-5	< 220	n/a	ug/Kg	12/07/04			U
BLANK	Phenol-d5	4165-62-2	2055.5	82.200	% Recov	12/07/04	54.000	120.000	
BLANK	Pyrene	129-00-0	< 50	n/a	ug/Kg	12/07/04			U
BLANK	Tributyl phosphate	126-73-8	< 50	n/a	ug/Kg	12/07/04			U
BLANK	2,4,6-Tribromophenol	118-79-6	1944.1	77.800	% Recov	12/07/04	24.000	122.000	
BLANK	Terphenyl-d14 (7Cl)	98904-43-9	2300.3	92.000	% Recov	12/07/04	35.000	150.000	
LCS	1,2,4-Trichlorobenzene	120-82-1	2103.6	84.100	% Recov	12/07/04	46.000	107.000	
LCS	1,4-Dichlorobenzene	106-46-7	2081.5	83.300	% Recov	12/07/04	42.000	111.000	
LCS	2,4-Dinitrotoluene	121-14-2	2029.8	81.200	% Recov	12/07/04	59.000	106.000	
LCS	2-Fluorophenol	367-12-4	2215.2	88.600	% Recov	12/07/04	50.000	110.000	
LCS	Acenaphthene	83-32-9	2386.9	95.500	% Recov	12/07/04	61.000	116.000	
LCS	4-Chloro-3-methylphenol	59-50-7	3219.7	85.900	% Recov	12/07/04	61.000	106.000	
LCS	2-Chlorophenol	95-57-8	3212.9	85.700	% Recov	12/07/04	66.000	106.000	
LCS	N-Nitrosodi-n-dipropylamine	621-64-7	2383.7	95.300	% Recov	12/07/04	71.000	114.000	
LCS	2-Fluorobiphenyl	321-60-8	2333.2	93.300	% Recov	12/07/04	58.000	109.000	

WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20042240
 Matrix: SOLID
 Test: SW-846 8270B Semi-Vols

SAF Number: F03-025
 Sample Date:
 Receive Date:

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
LCS	Phenol	108-95-2	3372.6	89.900	% Recov	12/07/04	67.000	105.000	
LCS	Nitrobenzene-d5	4165-60-0	2063.2	82.500	% Recov	12/07/04	60.000	118.000	
LCS	4-Nitrophenol	100-02-7	2543.3	67.800	% Recov	12/07/04	32.000	118.000	
LCS	Pentachlorophenol	87-86-5	2530.4	67.500	% Recov	12/07/04	62.000	114.000	
LCS	Phenol-d5	4165-62-2	2209.0	88.400	% Recov	12/07/04	59.000	116.000	
LCS	Pyrene	129-00-0	2034.3	81.400	% Recov	12/07/04	66.000	118.000	
LCS	2,4,6-Tribromophenol	118-79-6	2336.2	93.400	% Recov	12/07/04	60.000	120.000	
LCS	Terphenyl-d14 (7Cl)	98904-43-9	2253.6	90.100	% Recov	12/07/04	60.000	120.000	

WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20042240

Matrix: SOLID

Test: WTPH-D TPH Diesel Range (Wa)

SAF Number: F03-025

Sample Date: 11/24/04

Receive Date: 11/24/04

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
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Lab ID: W040002413

BATCH QC ASSOCIATED WITH SAMPLE

MS	ortho-Terphenyl	Surr	84-15-1	33506	97.400	% Recov	12/06/04	70.000	130.000
MS	Total Pet. Hydrocarbons	Diesel	TPHDIESEL	151830	88.300	% Recov	12/06/04	75.000	125.000
MSD	ortho-Terphenyl	Surr	84-15-1	34540	100.000	% Recov	12/06/04	70.000	130.000
MSD	Total Pet. Hydrocarbons	Diesel	TPHDIESEL	160920	93.600	% Recov	12/06/04	75.000	125.000
SPK-RPD	ortho-Terphenyl	Surr	84-15-1	100.000	2.634	RPD	12/06/04	0.000	20.000
SPK-RPD	Total Pet. Hydrocarbons	Diesel	TPHDIESEL	93.600	5.827	RPD	12/06/04	0.000	20.000
SURR	ortho-Terphenyl	Surr	84-15-1	30920	90.300	% Recov	12/06/04	70.000	130.000

BATCH QC

BLANK	Kerosene		TPHKEROSENE	< 3800	n/a	ug/Kg	12/06/04		U
BLANK	ortho-Terphenyl	Surr	84-15-1	24362	97.400	% Recov	12/06/04	70.000	130.000
BLANK	Total Pet. Hydrocarbons	Diesel	TPHDIESEL	< 3800	n/a	ug/Kg	12/06/04		U
LCS	Kerosene		TPHKEROSENE	130160	104.000	% Recov	12/06/04	70.000	130.000
LCS	ortho-Terphenyl	Surr	84-15-1	23121	92.500	% Recov	12/06/04	70.000	130.000

WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20042240

Matrix: SOLID

Test: NWTPH-GX TPH Gasoline Range

SAF Number: F03-025

Sample Date: 11/20/04

Receive Date: 11/22/04

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
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Lab ID: W040002271

BATCH QC ASSOCIATED WITH SAMPLE

DUP	Total Pet. Hydrocarbons Gas	TPHGASOLINE	<250	n/a	RPD	12/02/04	0.000	20.000	U
MS	Total Pet. Hydrocarbons Gas	TPHGASOLINE	3100	89.855	% Recov	12/02/04	50.000	150.000	
MSD	Total Pet. Hydrocarbons Gas	TPHGASOLINE	3000	86.957	% Recov	12/02/04	50.000	150.000	
SPK-RPD	Total Pet. Hydrocarbons Gas	TPHGASOLINE	86.957	3.278	RPD	12/02/04	0.000	20.000	

BATCH QC

BLANK	Total Pet. Hydrocarbons Gas	TPHGASOLINE	<250	n/a	mg/L	12/02/04	0.000	300.000	U
LCS	Total Pet. Hydrocarbons Gas	TPHGASOLINE	1200	92.308	% Recov	12/02/04	85.000	115.000	

WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20042240

Matrix: SOLID

Test: VOA Ground Water Protection

SAF Number: F03-025

Sample Date: 11/22/04

Receive Date: 11/22/04

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
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Lab ID: W040002313

BATCH QC ASSOCIATED WITH SAMPLE

MS	1,1-Dichloroethene	75-35-4	56.530	96.200	% Recov	12/01/04	63.000	117.000	
MS	Benzene	71-43-2	67.040	114.000	% Recov	12/01/04	75.000	129.000	
MS	4-Bromofluorobenzene	460-00-4	115.20	98.000	% Recov	12/01/04	84.000	116.000	
MS	Chlorobenzene	108-90-7	68.050	116.000	% Recov	12/01/04	79.000	119.000	
MS	1,2-Dichloroethane-d4	17060-07-0	137.40	117.000	% Recov	12/01/04	82.000	136.000	
MS	Toluene-d8	2037-26-5	126.10	107.000	% Recov	12/01/04	89.000	119.000	
MS	Toluene	108-88-3	66.614	113.000	% Recov	12/01/04	76.000	120.000	
MS	Trichloroethene	79-01-6	61.990	106.000	% Recov	12/01/04	73.000	123.000	
MSD	1,1-Dichloroethene	75-35-4	58.590	99.700	% Recov	12/01/04	63.000	117.000	
MSD	Benzene	71-43-2	66.500	113.000	% Recov	12/01/04	75.000	129.000	
MSD	4-Bromofluorobenzene	460-00-4	113.40	96.500	% Recov	12/01/04	84.000	116.000	
MSD	Chlorobenzene	108-90-7	67.300	115.000	% Recov	12/01/04	79.000	119.000	
MSD	1,2-Dichloroethane-d4	17060-07-0	137.30	117.000	% Recov	12/01/04	82.000	136.000	
MSD	Toluene-d8	2037-26-5	122.60	104.000	% Recov	12/01/04	89.000	119.000	
MSD	Toluene	108-88-3	64.524	110.000	% Recov	12/01/04	76.000	120.000	
MSD	Trichloroethene	79-01-6	63.160	107.000	% Recov	12/01/04	73.000	123.000	
SPK-RPD	1,1-Dichloroethene	75-35-4	99.700	3.573	RPD	12/01/04	0.000	25.000	
SPK-RPD	Benzene	71-43-2	113.000	0.881	RPD	12/01/04	0.000	25.000	
SPK-RPD	4-Bromofluorobenzene	460-00-4	96.500	1.542	RPD	12/01/04	0.000	25.000	
SPK-RPD	Chlorobenzene	108-90-7	115.000	0.866	RPD	12/01/04	0.000	25.000	
SPK-RPD	1,2-Dichloroethane-d4	17060-07-0	117.000	0.000	RPD	12/01/04	0.000	25.000	
SPK-RPD	Toluene-d8	2037-26-5	104.000	2.844	RPD	12/01/04	0.000	25.000	
SPK-RPD	Toluene	108-88-3	110.000	2.691	RPD	12/01/04	0.000	25.000	
SPK-RPD	Trichloroethene	79-01-6	107.000	0.939	RPD	12/01/04	0.000	25.000	

WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20042240

Matrix: SOLID

Test: VOA Ground Water Protection

SAF Number: F03-025

Sample Date: 11/24/04

Receive Date: 11/24/04

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
Lab ID: W040002413									
BATCH QC ASSOCIATED WITH SAMPLE									
SURR	4-Bromofluorobenzene	460-00-4	102.60	99.000	% Recov	12/01/04	71.000	125.000	
SURR	1,2-Dichloroethane-d4	17060-07-0	118.50	114.000	% Recov	12/01/04	80.000	134.000	
SURR	Toluene-d8	2037-26-5	109.80	106.000	% Recov	12/01/04	80.000	126.000	
BATCH QC									
BLANK	1,1-Dichloroethane	75-34-3	< 2.0	n/a	ug/Kg	12/01/04			U
BLANK	1,1,1-Trichloroethane	71-55-6	< 2.0	n/a	ug/Kg	12/01/04			U
BLANK	1,1,2-Trichloroethane	79-00-5	< 2.0	n/a	ug/Kg	12/01/04			U
BLANK	1,1,2,2-Tetrachloroethane	79-34-5	< 2.0	n/a	ug/Kg	12/01/04			U
BLANK	1,1-Dichloroethene	75-35-4	< 2.0	n/a	ug/Kg	12/01/04			U
BLANK	1,2-Dichloroethane	107-06-2	< 2.0	n/a	ug/Kg	12/01/04			U
BLANK	1,2-Dichloroethene(Total)	540-59-0	< 2.0	n/a	ug/Kg	12/01/04			U
BLANK	1-Butanol	71-36-3	< 40	n/a	ug/Kg	12/01/04			U
BLANK	2-Hexanone	591-78-6	< 2.0	n/a	ug/Kg	12/01/04			U
BLANK	4-Methyl-2-Pentanone	108-10-1	< 2.0	n/a	ug/Kg	12/01/04			U
BLANK	Acetone	67-64-1	< 2.0	n/a	ug/Kg	12/01/04			U
BLANK	Bromodichloromethane	75-27-4	< 2.0	n/a	ug/Kg	12/01/04			U
BLANK	Benzene	71-43-2	< 2.0	n/a	ug/Kg	12/01/04			U
BLANK	4-Bromofluorobenzene	460-00-4	102.20	102.000	% Recov	12/01/04	71.000	125.000	
BLANK	Bromoform	75-25-2	< 2.0	n/a	ug/Kg	12/01/04			U
BLANK	Carbon disulfide	75-15-0	< 2.0	n/a	ug/Kg	12/01/04			U
BLANK	Carbon tetrachloride	56-23-5	< 2.0	n/a	ug/Kg	12/01/04			U
BLANK	Dibromochloromethane	124-48-1	< 2.0	n/a	ug/Kg	12/01/04			U
BLANK	Chloroform	67-66-3	< 2.0	n/a	ug/Kg	12/01/04			U
BLANK	Chlorobenzene	108-90-7	< 2.0	n/a	ug/Kg	12/01/04			U
BLANK	cis-1,3-Dichloropropene	10061-01-5	< 2.0	n/a	ug/Kg	12/01/04			U
BLANK	Chloroethane	75-00-3	< 2.0	n/a	ug/Kg	12/01/04			U

WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20042240

Matrix: SOLID

Test: VOA Ground Water Protection

SAF Number: F03-025

Sample Date:

Receive Date:

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
BLANK	1,2-Dichloroethane-d4	17060-07-0	113.50	114.000	% Recov	12/01/04	80.000	134.000	
BLANK	1,2-Dichloropropane	78-87-5	< 2.0	n/a	ug/Kg	12/01/04			U
BLANK	Ethylbenzene	100-41-4	< 2.0	n/a	ug/Kg	12/01/04			U
BLANK	Bromomethane	74-83-9	< 2.0	n/a	ug/Kg	12/01/04			U
BLANK	Chloromethane	74-87-3	< 2.0	n/a	ug/Kg	12/01/04			U
BLANK	2-Butanone	78-93-3	< 2.0	n/a	ug/Kg	12/01/04			U
BLANK	Methylenechloride	75-09-2	< 2.0	n/a	ug/Kg	12/01/04			U
BLANK	Tetrachloroethene	127-18-4	< 2.0	n/a	ug/Kg	12/01/04			U
BLANK	Styrene	100-42-5	< 2.0	n/a	ug/Kg	12/01/04			U
BLANK	Xylenes (total)	1330-20-7	< 2.0	n/a	ug/Kg	12/01/04			U
BLANK	Toluene-d8	2037-26-5	104.00	104.000	% Recov	12/01/04	80.000	126.000	
BLANK	Toluene	108-88-3	3.2	3.200	ug/Kg	12/01/04			
BLANK	trans-1,3-Dichloropropene	10061-02-6	< 2.0	n/a	ug/Kg	12/01/04			U
BLANK	Trichloroethene	79-01-6	< 2.0	n/a	ug/Kg	12/01/04			U
BLANK	Vinyl chloride	75-01-4	< 2.0	n/a	ug/Kg	12/01/04			U
LCS	1,1-Dichloroethene	75-35-4	48.110	96.200	% Recov	12/01/04	70.000	130.000	
LCS	Benzene	71-43-2	57.910	116.000	% Recov	12/01/04	70.000	130.000	
LCS	4-Bromofluorobenzene	460-00-4	100.50	100.000	% Recov	12/01/04	71.000	125.000	
LCS	Chlorobenzene	108-90-7	58.290	117.000	% Recov	12/01/04	70.000	130.000	
LCS	1,2-Dichloroethane-d4	17060-07-0	122.00	122.000	% Recov	12/01/04	80.000	134.000	
LCS	Toluene-d8	2037-26-5	106.00	106.000	% Recov	12/01/04	80.000	126.000	
LCS	Toluene	108-88-3	59.180	118.000	% Recov	12/01/04	70.000	130.000	
LCS	Trichloroethene	79-01-6	54.710	109.000	% Recov	12/01/04	70.000	130.000	

WSCF

ANALYTICAL RESULTS REPORT

Attention:
Project:

Steve Trent
F03-025: F03-025

Group #: WSCF20042240

Sample #	Client ID	CAS #	Test Performed	Matrix	WSCF		Unit	DF	MDL	Analyze Sample	Receive
					Method	RQ					
Radiochemistry											
W040002413	B19196	TRENT	14596-10-2	Americium-241	SOIL	LA-508-471		0.0340	pCi/g	1.00	0.012
W040002413	B19196	TRENT	E,T,C	Am-241 by AEA Total Cntg Error	SOIL	LA-508-471	+-	0.018	pCi/g	1.00	0.0
W040002413	B19196	TRENT	10198-40-0	Cobalt-60	SOIL	LA-508-481	U	9.41e-04	pCi/g	1.00	9.1e-03
W040002413	B19196	TRENT	E,T,C	Co-60 Rel. Count Error (GEA)	SOIL	LA-508-481	+-	5.2e-03	pCi/g	1.00	0.0
W040002413	B19196	TRENT	10045-97-3	Cesium-137	SOIL	LA-508-481	U	6.90e-03	pCi/g	1.00	9.8e-03
W040002413	B19196	TRENT	E,T,C	Cs-137 Rel. Count Error (GEA)	SOIL	LA-508-481	+-	6.3e-03	pCi/g	1.00	0.0
W040002413	B19196	TRENT	14683-23-9	Europium-152	SOIL	LA-508-481	U	6.13e-04	pCi/g	1.00	0.026
W040002413	B19196	TRENT	E,T,C	Eu-152 Rel. Count Error (GEA)	SOIL	LA-508-481	+-	6.1e-03	pCi/g	1.00	0.0
W040002413	B19196	TRENT	15585-10-1	Europium-154	SOIL	LA-508-481	U	4.33e-03	pCi/g	1.00	0.029
W040002413	B19196	TRENT	E,T,C	Eu-154 Rel. Count Error (GEA)	SOIL	LA-508-481	+-	0.017	pCi/g	1.00	0.0
W040002413	B19196	TRENT	14391-16-3	Europium-155	SOIL	LA-508-481	U	9.14e-03	pCi/g	1.00	0.038
W040002413	B19196	TRENT	E,T,C	Eu-155 Rel. Count Error (GEA)	SOIL	LA-508-481	+-	0.023	pCi/g	1.00	0.0
W040002413	B19196	TRENT	13994-20-2	Neptunium-237	SOIL	LA-508-471	U	-8.60e-04	pCi/g	1.00	0.012
W040002413	B19196	TRENT	E,T,C	Np-237 by AEA Total Cntg Error	SOIL	LA-508-471	+-	8.6e-03	pCi/g	1.00	0.0
W040002413	B19196	TRENT	13981-16-3	Plutonium-238	SOIL	LA-508-471	U	-9.50e-03	pCi/g	1.00	0.062
W040002413	B19196	TRENT	E,T,C	Pu-238 by AEA Total Cntg Error	SOIL	LA-508-471	+-	0.034	pCi/g	1.00	0.0
W040002413	B19196	TRENT	PU-239/240	Pu-239/240 by AEA	SOIL	LA-508-471	U	0.0110	pCi/g	1.00	0.020
W040002413	B19196	TRENT	E,T,C	Pu-239/240 AEA Total Cntg Err	SOIL	LA-508-471	+-	0.013	pCi/g	1.00	0.0
W040002413	B19196	TRENT	U-233/234	Uranium-233/234	SOIL	LA-508-471		0.150	pCi/g	1.00	0.014
W040002413	B19196	TRENT	E,T,C	U-233/234 AEA Total Cntg Error	SOIL	LA-508-471	+-	0.051	pCi/g	1.00	0.0
W040002413	B19196	TRENT	15117-96-1	Uranium-235	SOIL	LA-508-471	U	0.0150	pCi/g	1.00	0.015
W040002413	B19196	TRENT	E,T,C	U-235 by AEA Total Cntg Error	SOIL	LA-508-471	+-	0.013	pCi/g	1.00	0.0
W040002413	B19196	TRENT	U-238	Uranium-238	SOIL	LA-508-471		0.130	pCi/g	1.00	5.2e-03
W040002413	B19196	TRENT	E,T,C	U-238 by AEA Total Cntg Error	SOIL	LA-508-471	+-	0.046	pCi/g	1.00	0.10

MDL=Minimum Detection Limit
RQ=Result Qualifier

B - The Analyte detected in both the BLANK and the SAMPLE (org.)
J - Analyte is an estimate, has potentially larger errors

B - The analyte < the RDL but > = the IDL/MDL (inorganic)
U - Analyzed for but not detected above limiting criteria.

DF=Dilution Factor

* - Indicates results that have NOT been validated; + - Indicates more than six qualifier symbols

Report WGPP/ver. 1.1

Groundwater Remediation Program

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WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20042240
 Matrix: SOLID
 Test: Americium by AEA

SAF Number: F03-025
 Sample Date: 11/18/04
 Receive Date: 11/23/04

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
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Lab ID: W040002328

BATCH QC ASSOCIATED WITH SAMPLE

DUP	Americium-241	14596-10-2	3.3e-02	3.077	RPD	12/20/04	0.000	20.000
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BATCH QC

BLANK	Americium-241	14596-10-2	2.0e-02	0.020	pCi/g	12/20/04	-10.000	1000.000
LCS	Americium-241	14596-10-2	4.7e+01	97.713	% Recov	12/20/04	75.000	125.000

WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20042240

Matrix: SOLID

Test: Gamma Energy Analysis-grd H₂O

SAF Number: F03-025

Sample Date: 11/24/04

Receive Date: 11/24/04

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
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Lab ID: W040002413

BATCH QC ASSOCIATED WITH SAMPLE

DUP	Cobalt-60	10198-40-0	U1.01e-02	n/a	RPD	12/01/04	0.000	20.000	
DUP	Cesium-137	10045-97-3	8.75e-03	200.000	RPD	12/01/04	0.000	20.000	*
DUP	Europium-152	14683-23-9	U4.24e-3	n/a	RPD	12/01/04	0.000	20.000	
DUP	Europium-154	15585-10-1	U-6.6e-3	n/a	RPD	12/01/04	0.000	20.000	
DUP	Europium-155	14391-16-3	2.34e-2	200.000	RPD	12/01/04	0.000	20.000	*

BATCH QC

BLANK	Cobalt-60	10198-40-0	U-1.2e-3	n/a	pCi/g	11/30/04	-10.000	1000.000	
BLANK	Cesium-137	10045-97-3	U3.99e-3	n/a	pCi/g	11/30/04	-10.000	1000.000	
BLANK	Europium-152	14683-23-9	U-1.9e-2	n/a	pCi/g	11/30/04	-10.000	1000.000	
BLANK	Europium-154	15585-10-1	U-6.8e-3	n/a	pCi/g	11/30/04	-10.000	1000.000	
BLANK	Europium-155	14391-16-3	U1.08e-2	n/a	pCi/g	11/30/04	-10.000	1000.000	
LCS	Cobalt-60	10198-40-0	4.31e+03	102.864	% Recov	11/30/04	80.000	120.000	
LCS	Cesium-137	10045-97-3	3.93e+03	109.777	% Recov	11/30/04	80.000	120.000	

WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20042240
 Matrix: SOLID
 Test: Neptunium by AEA

SAF Number: F03-025
 Sample Date: 11/20/04
 Receive Date: 11/22/04

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
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Lab ID: W040002271

BATCH QC ASSOCIATED WITH SAMPLE

DUP	Neptunium-237	13994-20-2	-8.8e-04	-2.299	RPD	12/13/04	0.000	25.000	*
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BATCH QC

BLANK	Neptunium-237	13994-20-2	-4.06e-03	-0.004	pCi/g	12/13/04	-10.000	1000.000	
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LCS	Neptunium-237	13994-20-2	31	31.000	% Recov	12/13/04	75.000	125.000	*
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WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20042240
 Matrix: SOLID
 Test: Plutonium Isotopes by AEA

SAF Number: F03-025
 Sample Date: 11/18/04
 Receive Date: 11/23/04

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
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Lab ID: W040002328

BATCH QC ASSOCIATED WITH SAMPLE

DUP	Pu-239/240 by AEA	PU-239/240	U-3.8E-03	n/a	RPD	12/20/04	0.000	20.000
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BATCH QC

BLANK	Pu-239/240 by AEA	PU-239/240	5.3e-03	0.005	pCi/g	12/20/04	-10.000	1000.000
LCS	Pu-239/240 by AEA	PU-239/240	5.0e +01	101.626	% Recov	12/20/04	75.000	125.000

WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20042240
 Matrix: SOLID
 Test: Uranium Isotopes by AEA

SAF Number: F03-025
 Sample Date: 11/18/04
 Receive Date: 11/23/04

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
Lab ID: W040002328									
BATCH QC ASSOCIATED WITH SAMPLE									
DUP	Uranium-238	U-238	2.3e+00	23.077	RPD	12/20/04	0.000	20.000	*
BATCH QC									
BLANK	Uranium-238	24678-82-8	U5.4e-03	n/a	pCi/g	12/20/04	-10.000	1000.000	
LCS	Uranium-238	24678-82-8	8.8e+01	116.064	% Recov	12/20/04	75.000	125.000	

WSCF
ANALYTICAL COMMENT REPORT

Attention: Steve Trent
Project Number F03-025

Group #: WSCF20042240

Sample #	Client ID	Lab Area	Test	Comment
		VALGROUP		<p>ICP-AES: Blank contained .111ug/G, all results > than MDL and less than 20 times the blank value will receive "C" flag. ldl</p> <p>ORGANICS: Sample concentrations are corrected for moisture and reported on a dry weight basis. gar</p> <p>TPHDiesel: Sample B19196, W040002413 contained hydrocarbon like peaks that had no pattern matching either kerosene, diesel, or motor oil. The kerosene and diesel results are those peak areas quantitated as diesel or kerosene, although the hydrocarbons found are neither diesel nor kerosene. cgc</p> <p>VOA: A J-flag of a target compound indicates that it was found at a concentration less than the lowest calibration standard concentration but greater than the detection limit. gar</p> <p>W040002413/Np237 duplicate is flagged but the sample activity is below detection. The LCS recovery is low so the sample result is an estimated value.lmh</p> <p>ICP-MS: Evaluation of preparation blank results shows no significant effect on sample results -wb</p> <p>Uranium LCS is acceptable at 109% recovery. -wb</p> <p>W040002413/UISO duplicate is flagged because the sample</p>

Lab Areas: VALGROUP - Group Validation
LOGSAMP - Login for Sample

VALTEST - Test Validation
LOGTEST - Login for Tests

TESTDATA - Test Data Entry

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WSCF
ANALYTICAL COMMENT REPORT

Attention: Steve Trent
Project Number F03-025

Group #: WSCF20042240

Sample #	Client ID	Lab Area	Test	Comment
				is not homogeneous.lmh

Lab Areas: VALGROUP - Group Validation
LOGSAMP - Login for Sample

VALTEST - Test Validation
LOGTEST - Login for Tests

TESTDATA - Test Data Entry

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WSCF

TENTATIVELY IDENTIFIED PEAK REPORT

Attention: Steve Trent **Group #:** WSCF20042240
Project Number F03-025 :F03-025

Sample #	Client ID	Test Name	Peak Name	CAS#	RT	RQ	Result	Units
W040002413	B19196	TRENT	Gamma Energy Analysis-grd H2O	K-40 Count Error			13	%
W040002413	B19196	TRENT	Gamma Energy Analysis-grd H2O	PB-212 Count Error			14	%
W040002413	B19196	TRENT	Gamma Energy Analysis-grd H2O	PB-214 Count Error			14	%
W040002413	B19196	TRENT	Gamma Energy Analysis-grd H2O	BI-214 Count Error			16	%
W040002413	B19196	TRENT	Gamma Energy Analysis-grd H2O	RA-226 Count Error			16	%
W040002413	B19196	TRENT	Gamma Energy Analysis-grd H2O	TL-208 Count Error			17	%
W040002413	B19196	TRENT	Gamma Energy Analysis-grd H2O	AC-228 Count Error			18	%
W040002413	B19196	TRENT	Gamma Energy Analysis-grd H2O	RA-228 Count Error			18	%
W040002413	B19196	TRENT	Gamma Energy Analysis-grd H2O	SN-126 Count Error			21	%
W040002413	B19196	TRENT	Gamma Energy Analysis-grd H2O	BI-212 Count Error			29	%
W040002413	B19196	TRENT	Gamma Energy Analysis-grd H2O	U-235 Count Error			31	%
W040002413	B19196	TRENT	Gamma Energy Analysis-grd H2O	CS-134 Count Error			32	%
W040002413	B19196	TRENT	Gamma Energy Analysis-grd H2O	CS-134			0.026	pCi/g
W040002413	B19196	TRENT	Gamma Energy Analysis-grd H2O	U-235			0.049	pCi/g
W040002413	B19196	TRENT	Gamma Energy Analysis-grd H2O	SN-126			0.13	pCi/g
W040002413	B19196	TRENT	Gamma Energy Analysis-grd H2O	TL-208			0.16	pCi/g
W040002413	B19196	TRENT	Gamma Energy Analysis-grd H2O	BI-212			0.26	pCi/g
W040002413	B19196	TRENT	Gamma Energy Analysis-grd H2O	PB-214			0.43	pCi/g
W040002413	B19196	TRENT	Gamma Energy Analysis-grd H2O	BI-214			0.46	pCi/g
W040002413	B19196	TRENT	Gamma Energy Analysis-grd H2O	RA-226			0.46	pCi/g
W040002413	B19196	TRENT	Gamma Energy Analysis-grd H2O	AC-228			0.46	pCi/g
W040002413	B19196	TRENT	Gamma Energy Analysis-grd H2O	RA-228			0.46	pCi/g
W040002413	B19196	TRENT	Gamma Energy Analysis-grd H2O	PB-212			0.49	pCi/g
W040002413	B19196	TRENT	Gamma Energy Analysis-grd H2O	K-40			12	pCi/g
W040002413	B19196	TRENT	SW-846 8270B Semi-Vols	SMP 10.998 Diethylphthalate	84-66-2	10.9985	2.0e +02	ug/kg

RQ=Result Qualifier

J - Analyte is an estimate, has potentially larger errors

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Groundwater Remediation Program

WGPPE v 1.1 Report #: 20042240

Report Date: 27-dec-2004

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WSCF

TENTATIVELY IDENTIFIED PEAK REPORT

Attention: Steve Trent **Group #:** WSCF20042240
Project Number F03-025 :F03-025

Sample #	Client ID	Test Name	Peak Name	CAS#	RT	RQ	Result	Units
W040002413	B19196	TRENT	SW-846 8270B Semi-Vols	SMP 14.799 Di-n-butylphthalate	84-74-2	14.79986	3.4e +02	ug/kg
W040002413	B19196	TRENT	SW-846 8270B Semi-Vols	SMP 16.506 Unknown Organic Acid	Unknown	16.5064	4.2e +02	ug/kg
W040002413	B19196	TRENT	SW-846 8270B Semi-Vols	SMP 20.951 Unknown	Unknown	20.95155	6.3e +02	ug/kg
W040002413	B19196	TRENT	SW-846 8270B Semi-Vols	SMP 21.094 Unknown	Unknown	21.0946	6.3e +02	ug/kg
W040002413	B19196	TRENT	SW-846 8270B Semi-Vols	SMP 21.830 Eicosane	112-95-8	21.83035	9.7e +02	ug/kg
W040002413	B19196	TRENT	SW-846 8270B Semi-Vols	SMP 23.209 Unknown	Unknown	23.20988	8.3e +02	ug/kg
W040002413	B19196	TRENT	SW-846 8270B Semi-Vols	SMP 23.863 Unknown	Unknown	23.86388	8.6e +02	ug/kg
W040002413	B19196	TRENT	SW-846 8270B Semi-Vols	SMP 24.528 Unknown	Unknown	24.5281	7.9e +02	ug/kg
W040002413	B19196	TRENT	SW-846 8270B Semi-Vols	SMP 25.355 Unknown	Unknown	25.35581	5.8e +02	ug/kg
W040002413	B19196	TRENT	SW-846 8270B Semi-Vols	SMP 26.071 Unknown	Unknown	26.07113	5.5e +02	ug/kg
W040002413	B19196	TRENT	SW-846 8270B Semi-Vols	SMP 5.541 Hexanoic acid	142-62-1	5.5417	5.7e +02	ug/kg
W040002413	B19196	TRENT	VOA Ground Water Protection	SMP 19.217 Hexanal	66-25-1	19.21723	1.5	ug/kg

RQ=Result Qualifier

J - Analyte is an estimate, has potentially larger errors

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Groundwater Remediation Program

WGPPE v 1.1 Report #: 20042240

Report Date: 27-dec-2004

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WSCF

METHOD REFERENCES REPORT

The results provided in this report were generated using the following WSCF Laboratory procedures. For your convenience, this table provides a listing of the regulatory or industry methods that are referenced by each of these WSCF procedures. Please note that the most recent version of the regulatory or industry method is listed here even though the WSCF procedure may reference an older version of the method. Also, a reference to a regulatory or industry method here does not necessarily indicate a verbatim implementation of that method.

LA-212-411	Determination of Soil pH Measurement EPA SW-846 9045C	SOIL AND WASTE pH
LA-503-401	LA-503-401: ANALYSIS OF CATIONS BY ION CHROMATOGRAPHY EPA-600/4-86-024 300.7	Dissolved Sodium, Ammonium, Potassium, and Calcium in Wet Deposition by Chemical
LA-505-411	LA-505-411: ELEMENTAL ANALYSIS BY INDUCTIVELY COUPLED PLASMA ATOMIC EMISSION SPE EPA SW-846 6010B	INDUCTIVELY COUPLED PLASMA-ATOMIC EMISSION SPECTROMETRY
LA-505-412	LA-505-412: DETERMINATION OF TRACE ELEMENTS IN WATERS AND WASTES BY INDUCTIVELY EPA-600/R-94-111 200.8	DETERMINATION OF TRACE ELEMENTS IN WATERS AND WASTES BY INDUCTIVELY COUPLED PLAS
LA-508-471	LA-508-471: ALPHA ENERGY ANALYZER DATA ACQUISITION AND SYSTEM CHECKOUT USING ALP None	No reference to any industry method.
LA-508-481	LA-508-481: GAMMA ENERGY ANALYSIS USING PROCOUNT SOFTWARE None	No reference to any industry method.
LA-519-412	LA-519-412: TOTAL RESIDUE/% SOLIDS DRIED AT 103 - 105 C EPA-600/4-79-020 160.3 Standard Methods 2540B	RESIDUE, TOTAL Total Solids Dried at 103-105 C
LA-523-427	LA-523-427: POLYCHLORINATED BIPHENYLS (PCBs) BY GAS CHROMATOGRAPHY EPA SW-846 3510C EPA SW-846 3545	SEPARATORY FUNNEL LIQUID-LIQUID EXTRACTION PRESSURIZED FLUID EXTRACTION (PFE)

Note: A complete list of WSCF analytical procedures and referenced regulatory or industry methods is available online at
<\\ap006\aspdocs\WSCF\Sample Mgmt\ProcedureMethodCrossReference.pdf>. This document includes on-line
links to full-text versions of the procedures and methods, where available.

WSCF

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	EPA SW-846 3665A	SULFURIC ACID/PERMANGANATE CLEANUP
	EPA SW-846 8000B	DETERMINATIVE CHROMATOGRAPHIC SEPARATIONS
	EPA SW-846 8082	POLYCHLORINATED BIPHENYLS (PCBs) BY GAS CHROMATOGRAPHY
LA-523-443	LA-523-443: GAS CHROMATOGRAPH ANALYSIS OF GASOLINE RANGE TOTAL PETROLEUM HYDROCARBONS WDOE TPH NWTPH-G	Volatile Petroleum Products Method for Soil and Water
LA-523-455	LA-523-455: VOLATILE SAMPLE ANALYSIS BY SW-846	
	EPA SW-846 8000B	DETERMINATIVE CHROMATOGRAPHIC SEPARATIONS
	EPA SW-846 8260B	VOLATILE ORGANIC COMPOUNDS BY GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)
LA-523-456	LA-523-456: SEMIVOLATILE SAMPLE ANALYSIS BY SW-846, METHOD 8270C	
	EPA SW-846 8000B	DETERMINATIVE CHROMATOGRAPHIC SEPARATIONS
	EPA SW-846 8270C	SEMIVOLATILE ORGANIC COMPOUNDS BY GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)
LA-533-410	LA-533-410: ANION ANALYSIS BY ION CHROMATOGRAPHY	
	EPA-600/R-94-111 300	DETERMINATION OF INORGANIC ANIONS BY ION CHROMATOGRAPHY
LA-695-402	LA-695-402: DETERMINATION OF CYANIDE BY MIDIDISTILLATION AND SPECTROPHOTOMETRIC	
	EPA-600/4-79-020 335.2	Cyanide, Total
NWTPH	NWTPH-Diesel and/or Gasoline	
	WDOE NWTPH-Dx/Gx	Total Petroleum Hydrocarbons - Diesel/Gasoline
Organics	Organics - Alcohols, Glycols	

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WSCF

METHOD REFERENCES REPORT

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EPA SW-846 8015B

Nonhalogenated Organics Using GC/FID

Note: A complete list of WSCF analytical procedures and referenced regulatory or industry methods is available online at
\\ap006\aspdocs\WSCF\Sample Mgmt\ProcedureMethodCrossReference.pdf. This document includes on-line
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Report Date: 27-dec-2004

Report #: WSCF20042240

Report WGPPM/O

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W13q Worklist/Batch/QC Report for Group# WSCF20042240

WL#	S#	Batch	QC#	Tray	Type	Sample#	Test
				SAMPLE		W040002413	Percent Solids
				SAMPLE		W040002413	pH Soil and Waste Measurement
24201	2	24558	27863	BLANK			Anions by Ion Chromatography
24201	11	24558	27863	BLANK			Anions by Ion Chromatography
24201	3	24558	27863	LCS			Anions by Ion Chromatography
24201	5	24558	27863	DUP		W040002206	Anions by Ion Chromatography
24201	6	24558	27863	MS		W040002206	Anions by Ion Chromatography
24201	7	24558	27863	MSD		W040002206	Anions by Ion Chromatography
24201	10	24558	27863	SAMPLE		W040002413	Anions by Ion Chromatography
24189	2	24546	27891	BLANK			Gamma Energy Analysis-grd H2O
24189	1	24546	27891	LCS			Gamma Energy Analysis-grd H2O
24189	3	24546	27891	DUP		W040002413	Gamma Energy Analysis-grd H2O
24189	4	24546	27891	SAMPLE		W040002413	Gamma Energy Analysis-grd H2O
24248	1	24605	27908	BLANK			ICP Metals Analysis, Grd H2O P
24248	2	24605	27908	LCS			ICP Metals Analysis, Grd H2O P
24248	4	24605	27908	MS		W040002092	ICP Metals Analysis, Grd H2O P
24248	5	24605	27908	MSD		W040002092	ICP Metals Analysis, Grd H2O P
24248	0	24605	27908	SPK-RPD		W040002092	ICP Metals Analysis, Grd H2O P
24248	12	24605	27908	SAMPLE		W040002413	ICP Metals Analysis, Grd H2O P
		27917		BLANK			Cyanide by Midi/Spectrophotom
		27917		BLNK-PREP			Cyanide by Midi/Spectrophotom
		27917		LCS			Cyanide by Midi/Spectrophotom
		27917		MS		W040002329	Cyanide by Midi/Spectrophotom
		27917		MSD		W040002329	Cyanide by Midi/Spectrophotom
		27917		SPK-RPD		W040002329	Cyanide by Midi/Spectrophotom
		27917		SAMPLE		W040002413	Cyanide by Midi/Spectrophotom
		27938		BLANK			PCBs complete list
		27938		LCS			PCBs complete list
		27938		MS		W040002413	PCBs complete list
		27938		MSD		W040002413	PCBs complete list
		27938		SAMPLE		W040002413	PCBs complete list
		27938		SPK-RPD		W040002413	PCBs complete list
		27938		SURR		W040002413	PCBs complete list
		27947		BLANK			WTPH-D TPH Diesel Range (Wa)
		27947		LCS			WTPH-D TPH Diesel Range (Wa)
		27947		MS		W040002413	WTPH-D TPH Diesel Range (Wa)
		27947		MSD		W040002413	WTPH-D TPH Diesel Range (Wa)
		27947		SAMPLE		W040002413	WTPH-D TPH Diesel Range (Wa)
		27947		SPK-RPD		W040002413	WTPH-D TPH Diesel Range (Wa)
		27947		SURR		W040002413	WTPH-D TPH Diesel Range (Wa)
		27988		BLANK			SW-846 8270B Semi-Vols
		27988		LCS			SW-846 8270B Semi-Vols
		27988		MS		W040002413	SW-846 8270B Semi-Vols
		27988		MSD		W040002413	SW-846 8270B Semi-Vols
		27988		SAMPLE		W040002413	SW-846 8270B Semi-Vols
		27988		SPK-RPD		W040002413	SW-846 8270B Semi-Vols
		27988		SURR		W040002413	SW-846 8270B Semi-Vols

24346	2	24704	28022	BLANK		Ammonia (N) by IC
24346	14	24704	28022	BLANK		Ammonia (N) by IC
24346	3	24704	28022	LCS		Ammonia (N) by IC
24346	5	24704	28022	DUP	W040002328	Ammonia (N) by IC
24346	6	24704	28022	MS	W040002328	Ammonia (N) by IC
24346	7	24704	28022	MSD	W040002328	Ammonia (N) by IC
24346	12	24704	28022	SAMPLE	W040002413	Ammonia (N) by IC
24329	1	24687	28036	BLANK		Neptunium by AEA
24329	2	24687	28036	LCS		Neptunium by AEA
24329	3	24687	28036	DUP	W040002271	Neptunium by AEA
24329	6	24687	28036	SAMPLE	W040002413	Neptunium by AEA
24374	1	24733	28049	BLANK		ICP-2008 MS All possible metal
24374	2	24733	28049	LCS		ICP-2008 MS All possible metal
24374	4	24733	28049	MS	W040002413	ICP-2008 MS All possible metal
24374	5	24733	28049	MSD	W040002413	ICP-2008 MS All possible metal
24374	3	24733	28049	SAMPLE	W040002413	ICP-2008 MS All possible metal
24374	0	24733	28049	SPK-RPD	W040002413	ICP-2008 MS All possible metal
		28145		BLANK		VOA Ground Water Protection
		28145		LCS		VOA Ground Water Protection
		28145		MS	W040002313	VOA Ground Water Protection
		28145		MSD	W040002313	VOA Ground Water Protection
		28145		SPK-RPD	W040002313	VOA Ground Water Protection
		28145		SAMPLE	W040002413	VOA Ground Water Protection
		28145		SURR	W040002413	VOA Ground Water Protection
24471	1	24832	28149	BLANK		Americium by AEA
24471	2	24832	28149	LCS		Americium by AEA
24471	3	24832	28149	DUP	W040002328	Americium by AEA
24471	6	24832	28149	SAMPLE	W040002413	Americium by AEA
24472	1	24831	28151	BLANK		Plutonium Isotopics by AEA
24472	2	24831	28151	LCS		Plutonium Isotopics by AEA
24472	3	24831	28151	DUP	W040002328	Plutonium Isotopics by AEA
24472	6	24831	28151	SAMPLE	W040002413	Plutonium Isotopics by AEA
24518	1	24876	28158	BLANK		NWTPH-GX TPH Gasoline Range
24518	2	24876	28158	LCS		NWTPH-GX TPH Gasoline Range
24518	4	24876	28158	DUP	W040002271	NWTPH-GX TPH Gasoline Range
24518	5	24876	28158	MS	W040002271	NWTPH-GX TPH Gasoline Range
24518	6	24876	28158	MSD	W040002271	NWTPH-GX TPH Gasoline Range
24518	6	24876	28158	SPK-RPD	W040002271	NWTPH-GX TPH Gasoline Range
24518	7	24876	28158	SAMPLE	W040002413	NWTPH-GX TPH Gasoline Range
24469	1	24834	28160	BLANK		Uranium Isotopics by AEA
24469	2	24834	28160	LCS		Uranium Isotopics by AEA
24469	3	24834	28160	DUP	W040002328	Uranium Isotopics by AEA
24469	6	24834	28160	SAMPLE	W040002413	Uranium Isotopics by AEA
24525	1	24883	28169	BLANK		Alcohols, Glycols - 8015
24525	2	24883	28169	LCS		Alcohols, Glycols - 8015
24525	4	24883	28169	DUP	W040002413	Alcohols, Glycols - 8015
24525	5	24883	28169	MS	W040002413	Alcohols, Glycols - 8015
24525	6	24883	28169	MSD	W040002413	Alcohols, Glycols - 8015
24525	7	24883	28169	SAMPLE	W040002413	Alcohols, Glycols - 8015
24525	6	24883	28169	SPK-RPD	W040002413	Alcohols, Glycols - 8015

M8141-SLF-04-397

ATTACHMENT 3

SAMPLE RECEIPT INFORMATION

Consisting of 4 pages
Including cover page

Waste Sampling and Characterization Facility
 P.O. BOX 1970 S3-30, Richland, WA 99352
 PHONE: (509) 373-7004/FAX: (509) 373-7134

12/22/04

ACKNOWLEDGMENT OF SAMPLES RECEIVED

Groundwater Remediation Program

Richland, WA 99354
 Attn: Steve Trent

Customer Code: GPP
 PO#: 119143/ES20
 Group#: 20042240
 Project#: F03-025
 Proj Mgr: Steve Trent
 Phone: 373-5869

FL WKB

A0-21

The following samples were received from you on 11/24/04. They have been scheduled for the tests listed beside each sample. If this information is incorrect, please contact your service representative. Thank you for using Waste Sampling and Characterization Facility.

Sample#	Sample Id	Matrix	Sample Date
		Tests Scheduled	
W040002413	B19196	TRENT @2008 @8015GPP @AEA-30 @AEA-31 @AEA-32 @AEA-33 @GEA-GPP @GPP6010 @IC-30 @PCBGPP @SVOC @TPHD-WA @TPHG-WA @VOA-GPP CN-02 NH4-IC PERSO PH-30	Solid, or handle as if solid 11/24/04

Test Acronym Description

Test Acronym	Description
@2008	ICP-2008 MS All possible metal
@8015GPP	Alcohols, Glycols - 8015
@AEA-30	Plutonium Isotopics by AEA
@AEA-31	Americium by AEA
@AEA-32	Uranium Isotopics by AEA
@AEA-33	Neptunium by AEA
@GEA-GPP	Gamma Energy Analysis-grd H2O
@GPP6010	ICP Metals Analysis, Grd H2O P
@IC-30	Anions by Ion Chromatography
@PCBGPP	PCBs complete list
@SVOCGPP	SW-846 8270B Semi-Vols
@TPHD-WA	WTPH-D TPH Diesel Range (Wa)
@TPHG-WA	NWTPH-GX TPH Gasoline Range
@VOA-GPP	VOA Ground Water Protection
CN-02	Cyanide by Midi/Spectrophotom
NH4-IC	Ammonia (N) by IC
PERSOLID	Percent Solids
PH-30	pH Soil and Waste Measurement

COLLECTOR Pope/Pfister/Wiberg/Tyra		COMPANY CONTACT TRENT, STEVE			TELEPHONE NO. 373-5689		PROJECT COORDINATOR TRENT, SJ		PRICE CODE 8N	DATA TURNAROUND	
SAMPLING LOCATION 216-T-28; 197.5ft-200ft		PROJECT DESIGNATION 200-LW-1/LW-2 Characterization - Soil			SAF NO. F03-025		AIR QUALITY <input type="checkbox"/>	45 Days / 45 Days			
ICE CHEST NO.		FIELD LOGBOOK NO.		COA 119143ES10		METHOD OF SHIPMENT Government Vehicle					
SHIPPED TO Waste Sampling & Characterization		OFFSITE PROPERTY NO. N/A				BILL OF LADING/AIR BILL NO. N/A					
MATRIX* A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	POSSIBLE SAMPLE HAZARDS/ REMARKS <i>20042240</i> <i>R45 he to B191D4</i> <i>W046002413</i>		PRESERVATION	Cool 4C	Cool 4C	Cool 4C	Cool 4C	None	None	None	
			TYPE OF CONTAINER	Gs*	aG	aG	Gs*	P	aG	aG	
			NO. OF CONTAINER(S)	3	1	1	3	1	1	1	
			VOLUME	40mL	120mL	120mL	40mL	500mL	250mL	120mL	
			SPECIAL HANDLING AND/OR STORAGE <i>MA 11/11/04</i>	SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS	PCBs - 8082;	SEE ITEM (3) IN SPECIAL INSTRUCTIONS	SEE ITEM (4) IN SPECIAL INSTRUCTIONS	SEE ITEM (5) IN SPECIAL INSTRUCTIONS	SEE ITEM (6) IN SPECIAL INSTRUCTIONS
SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME								
B19196	SOIL	11/24/04	1100	X X X X X X X X							

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS	
RELINQUISHED BY/REMOVED FROM <i>Dadz/ David Tyra</i>	DATE/TIME <i>11-24-04/1255</i>	RECEIVED BY/STORED IN <i>Steve R. Bobbe</i>	DATE/TIME <i>11/24/04</i>	SEE PAGE 2 FOR ALL SPECIAL INSTRUCTIONS	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM <i>GT C3</i>	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
LABORATORY SECTION <i>GT</i>	RECEIVED BY			TITLE	DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY		DATE/TIME	

Fluor Hanford Inc.	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F03-025-064	PAGE 2 OF 2
COLLECTOR Pope/Pfister/Wilberg/Tyra	COMPANY CONTACT TRENT, STEVE	TELEPHONE NO. 373-5689	PROJECT COORDINATOR TRENT, SJ	PRICE CODE 2A	DATA TURNAROUND
SAMPLING LOCATION 216-T-28; 197.5ft-200ft	PROJECT DESIGNATION 200-LW-1/LW-2 Characterization - Soil		SAF NO. F03-025	AIR QUALITY <input type="checkbox"/>	24 Hours <i>11/82</i> 45 Days <i>11/04</i>
ICE CHEST NO.	FIELD LOGBOOK NO.	COA 119143ES10	METHOD OF SHIPMENT Government Vehicle		
SHIPPED TO Waste Sampling & Characterization	OFFSITE PROPERTY NO. N/A		BILL OF LADING/AIR BILL NO. N/A		

SPECIAL INSTRUCTIONS

The laboratory is to analyze pH within 24 hours of sample receipt. The laboratory is to report kerosene range organics from the WTPH-D analysis.

- (1)VOA - 8260A (TCL); VOA - 8260A (Add-On) {1-Butanol}
- (2)Semi-VOA - 8270A (TCL) {Phenol} Semi-VOA -- 8270A (Add-On) {Tributyl phosphate} TPH-Diesel Range - WTPH-D {Total petroleum hydrocarbons - diesel range, Total petroleum hydrocarbons - kerosene range} TPH-Gasoline Range - WTPH-G;
- (3)Alcohols, Glycols, & Ketones - 8015 {Ethylene glycol}
- (4)Gamma Spectroscopy {Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155} Gamma Spec - Add-on {Antimony-123; Cesium-134} Isotopic Plutonium; Isotopic Uranium; Neptunium-237; Americium-241;
- (5)ICP/MS - 200.8 (TAL) {Antimony, Barium, Cadmium, Chromium, Copper, Nickel, Silver} ICP/MS - 200.8 (Add-on) {Arsenic, Beryllium, Lead, Mercury, Selenium, Uranium} ICP Metals - 6010A (Add-on) {Bismuth}
- (6)IC Anions - 300.0 {Chloride, Fluoride, Nitrogen in Nitrate, Nitrogen in Nitrite, Phosphorous in phosphate, Sulfate} Cations (IC) - 300.7 {Nitrogen in ammonium} Cyanide (Total) - 335.2; pH (Soil) - 9045;

Agm 11-1-04